

**ZB# 03-52**

**Cellular One**

**29-1-27.51**

ZONING BOARD OF APPEALS  
TOWN OF NEW WINDSOR  
555 UNION AVENUE  
NEW WINDSOR, N.Y. 12553  
*Granted 11-10-03*

ZBA 03-52 CELLULAR ONE (INT/USE)  
535 TOLEMAN RD. (CHAZEN) (29-1-27.51)

454-3980 Eva Billici

**OFFICE OF THE PLANNING BOARD  
TOWN OF NEW WINDSOR  
ORANGE COUNTY, NY**

**NOTICE OF DISAPPROVAL OF PLANNING BOARD APPLICATION**

PLANNING BOARD FILE NUMBER: 03-29

DATE: 10-15-03

APPLICANT:

**CELLULAR ONE - C/O KEVIN BRENNAN**  
**1351 RT. 55**  
**LA GRANGEVILLE, NY 12540**

PLEASE TAKE NOTICE THAT YOUR APPLICATION:

DATED: 9/17/03

FOR: SITE PLAN

LOCATED AT: **WEST SIDE OF TOLEMAN ROAD - TOWN OF NEW WINDSOR**


ZONE: **R-1**

DESCRIPTION OF EXISTING SITE: SEC: 29 BLOCK: 1 LOT: 27.51

IS DISAPPROVED ON THE FOLLOWING GROUNDS:

**INTERPRETATION AND/OR VARIANCE NEEDED REGARDING**  
**TELECOMMUNICATIONS FACILITIES TO BE LOCATED ON EXISTING RADIO**  
**TOWER IN AN R-1 ZONE.**

TOWN OF NEW WINDSOR CODE: 48-21 M AND 48-24 B (3)

  
MICHAEL BABCOCK,  
BUILDING INSPECTOR



**M. Telecommunications towers. [Added 4-7-1999 by L.L. No. 2-1999]**

- (1) **Purpose.** The purpose of these supplemental regulations is to promote the health, safety and general welfare of the residents of the Town of New Windsor; to provide standards for the safe provision of telecommunications consistent with applicable federal and state regulations; to minimize the total number of telecommunications towers in the community by encouraging shared use of existing and future towers, and the use of existing tall buildings and other high structures; and to minimize adverse visual effects from telecommunications towers by requiring careful siting, visual impact assessment and appropriate landscaping.

- (2) **Definitions.** As used in this chapter, the following terms shall have the meanings indicated:

**TELECOMMUNICATIONS TOWER** -- Any structure the total height of which, including underlying or support structures and buildings, is greater than 35 feet in height, which is capable of receiving or transmitting signals for the purpose of communications.

- (3) **Application of special permit regulations.**

- (a) No telecommunications tower, except those towers and uses approved prior to the effective date of this section, shall be used unless it has received a special permit from the Planning Board. No telecommunications tower shall hereafter be erected, moved, reconstructed, changed or altered unless in conformity with these regulations. No existing structure shall be modified to serve as a telecommunications tower unless in conformity with these regulations.
- (b) Applicants proposing to collocate on a previously approved telecommunications tower do not require a special permit. They are, however, subject to site plan review by the Planning Board in accordance with § 48-19.
- (c) These regulations shall apply to all property within the following zones: AP, PI, OLI, C and NC. Telecommunications towers shall be specifically excluded from all other zones.
- (d) Applications for construction of new telecommunications towers shall comply with the Code of Federal Regulations pertaining to objects affecting navigable airspace as delineated within Federal Aviation Regulations (FAR), Part 77. Additionally, no application for construction of a new telecommunications tower will be approved if the proposed tower violated the criteria for obstructions to air navigation as established by FAR Part 77, Subpart C Obstruction Standards.
- (4) **Shared use of existing tall structures.** At all times, shared use of existing tall structures (for example municipal water towers, multistory buildings, church steeples and farm silos) and existing or approved towers shall be preferred to the construction of new towers.
- (a) An applicant proposing to share use of an existing tall structure shall be required to submit:

- [1] A completed application for a special permit.
  - [2] Documentation of intent from the owner of the existing facility to allow shared use.
  - [3] A site plan. The site plan shall show, at a minimum, all existing and proposed structures and improvements, including antennas, roads, buildings, guy wires and anchors, parking and landscaping, and shall include grading plans for new facilities and roads. Any modifications of the existing facility shall be indicated on the site plan.
  - [4] An engineer's report certifying that the proposed shared use will not diminish the structural integrity and safety of the existing tall structure and explaining what modifications, if any, will be required in order to certify to the above, including making the facility higher.
  - [5] A completed long environmental assessment form (EAF) and completed visual EAF addendum.
  - [6] A copy of its Federal Communications Commission (FCC) license.
- (b) If an applicant proposing to share use of an existing tall structure submits complete and satisfactory documentation in accordance with Subsection M(4)(a)[1] through [6] above, and if modifications indicated according to those subsections are deemed insignificant by the Planning Board, and after the Planning Board conducts a public hearing and complies with all State Environmental Quality Review Act (SEQRA) provisions, the Board shall grant a special permit without further review under this section. If the Board determines that any modifications indicated according to such subsections are significant, it may require further review according to all subsections below.
- (c) The Planning Board may modify or waive the setback or lot area requirements in the event that they are not deemed necessary for safety or other valid planning purposes for the site.
- (5) New telecommunications towers. The Planning Board may consider a new telecommunications tower when the applicant demonstrates that shared use of existing tall structures and existing or approved towers is impractical. An applicant shall be required to present an adequate report inventorying all existing tall structures above 35 feet and existing or approved towers within a two-mile distance of the proposed site. The report shall demonstrate the need for the proposed facility and provide technical data regarding existing signal coverage. The report shall outline opportunities for shared use of these existing facilities as an alternative to a proposed new tower and shall show reasons why existing towers and structures are not usable. The report shall demonstrate good-faith efforts to secure shared use from the owner of each existing tall structure and existing or approved tower as well as documentation of the physical, technical and financial reasons why shared usage is not practical in each case. Written requests and responses for shared use shall be provided.
- (6) Shared usage of existing tower sites for placement of new towers. Where shared use of existing tall structures and existing or approved towers is found to be impractical, the

applicant shall investigate shared usage of an existing tower site for its ability to accommodate a new tower and accessory uses. Any proposals for a new telecommunications tower on an existing tower site shall be subject to the requirements below.

- (7) New towers at new locations. The Planning Board may consider a new telecommunications tower on a site not previously developed with an existing tower, when the applicant demonstrates that shared use of existing tall structures and existing or approved towers is impractical or that no existing facility could be modified or altered to be usable, and when the Board determines that shared use of an existing tower site for a new tower is undesirable. Any proposal for a new telecommunication tower shall be subject to the requirements of the subsections below.
- (8) Future shared use of new towers. The applicant shall design a proposed new telecommunications tower to accommodate future demand for reception and transmitting facilities. The applicant shall submit to the Board a letter of intent committing the owner of the proposed new tower, and successors in interest, to negotiate in good faith for shared use of the proposed tower by a reasonable number of other telecommunications providers in the future. This letter shall be filed with the Building Inspector prior to issuance of a building permit. Failure to abide by the conditions outlined in the letter may be grounds for relocation of the special permit. The letter shall commit the new tower owner and successors in interest to:
  - (a) Respond within 90 days to a request for information from a potential shared-use applicant.
  - (b) Negotiate in good faith concerning future requests for shared use of the new tower by other telecommunications providers.
  - (c) Allow shared use of the new tower if another telecommunications provider agrees in writing to pay charges. The charge may include but is not limited to a pro rata share of the cost of site selection, planning, project administration, land costs, site design, construction and maintenance financing, return on equity and depreciation and all of the costs of adapting the tower or equipment to accommodate a shared user without causing electromagnetic interference.
- (9) Site plan review; submission requirements.
  - (a) An applicant shall be required to submit a site plan in accordance with § 48-19. The site plan shall show all existing and proposed structures and improvements, including but not limited to roads, buildings, tower(s), guy wires and anchors, antennas, parking and landscaping, and shall include grading plans for new facilities and roads.
  - (b) Supporting documentation. The applicant shall submit a complete long EAF, a complete visual environmental assessment form and documentation on the proposed intent and capacity of use as well as a justification for the height of any tower and justification for any clearing required.
- (10) Lot size and setbacks. All proposed telecommunication towers and accessory structures shall be located on a single parcel and shall be set back from abutting parcels and street

lines a distance sufficient to substantially contain on site all ice-fall or debris from tower failure and preserve the privacy of any adjoining residential properties.

- (a) Lot size of parcels containing a tower shall be determined by the amount of land required to meet the setback requirements. If the land is to be leased the entire area required shall be leased from a single parcel unless the Planning Board determines that this provision may be modified or waived as part of the special permit.
  - (b) Telecommunications towers shall be located with a minimum setback from any property line equal to 1/2 of the height of the tower. Equipment or utility structures shall comply with the minimum setback requirements in the underlying zoning district.
- (11) Visual impact assessment. The Board shall require the applicant to undertake a visual impact assessment which shall include, as a minimum:
- (a) A Zone of Visibility Map shall be provided in order to determine locations where the tower may be seen.
  - (b) Pictorial representations of "before" and "after" views from key viewpoints both inside and outside of the town, including but not limited to state highways and other major roads, state and local parks, other public lands, preserves and historic sites normally open to the public, and from any other location where the site is visible to a large number of visitors or travelers. The board shall determine the appropriate key sites at a regular meeting or work session conference with the applicant.
  - (c) Assessment of alternative tower designs and color schemes.
  - (d) Assessment of the visual impact of the tower, guy wires, accessory buildings and overhead utility lines from abutting properties and streets. For new towers the Planning Board may require testing via balloons or cranes or other devices, with photographs submitted to the Board.
- (12) New tower design. Alternative designs shall be considered for new towers, including lattice and single pole structures. The design of a proposed new tower shall comply with the following:
- (a) Any new tower shall be designed to accommodate future shared use by other telecommunications providers to the extent practicable.
  - (b) A tower shall have a shape, contour and finish (either painted or unpainted) that minimizes its degree of visual impact. The Planning Board may require a tower to be in the shape of a tree, flagpole, church steeple, etc.
  - (c) The maximum height of any new tower shall not exceed that which shall permit operation without artificial lighting of any kind or nature, in accordance with municipal, state and/or federal law and/or regulation. The Board at its discretion may modify this requirement if the applicant can justify the need to exceed this height limitation.
  - (d) The Board may request a review of the application by a qualified professional engineer or landscape architect retained by the Planning Board in order to evaluate

the need for, and the design of, any new tower. The reasonable cost of this review shall be borne by the applicant.

- (e) All structures shall maximize the use of building materials, colors and textures designed to blend with the natural surroundings.
- (f) No portion of any tower or structure shall be used for a sign or other advertising purpose, including but not limited to company name, phone numbers, banners and streamers.
- (13) Existing vegetation. Existing on-site vegetation shall be preserved to the maximum extent possible. No cutting of trees exceeding four inches in diameter (measured at the height of four feet off the ground), shall take place prior to the approval of the special permit. The applicant shall also comply with § 48-19C.
- (14) Screening. Deciduous or evergreen tree plantings shall be required to screen portions of the tower and all structures from nearby residential property as well as from public sites known to include public sites and views. Where a site abuts a residential property or public property, including streets, ample screening shall be required.
- (15) Access. Adequate emergency and service access and maneuver area shall be provided, including access for a tower ladder fire truck. Maximum use of existing roads and private accessways shall be made. Road construction shall, at all times, minimize ground disturbance and vegetation cutting to within the toe of fill, the top of cuts, or no more than 10 feet beyond the edge of any pavement. Road grades shall closely follow natural contours to assure minimal visual disturbance and reduce soil erosion potential. An erosion control plan shall be submitted to and approved by the Planning Board prior to any construction.
- (16) Parking. Parking shall be provided to assure adequate emergency and service access in accordance with the Zoning Code.
- (17) Fencing. The tower and all structures shall be adequately enclosed by a fence, the design of which shall be approved by the Planning Board. The minimum standard shall be a chain-link fence six feet or eight feet in height, with dark vinyl coating and privacy slats, as well as suitable gate access for emergency purposes.
- (18) Public safety. The applicant shall demonstrate that the proposed communications tower will not pose a threat to public health and safety as a result of falling or blowing ice and other debris and that public access to the same has been restricted in order to prevent climbing or other trespass on the structure itself.
- (19) Removal. In the event that a tower is not in use for a period of one year, the tower and all structures shall be removed and the site restored to its condition prior to the construction of the related facilities. In the event that the tower is not removed as required by this section, then, upon written notice to the applicant securing the approval from the Planning Board for the special permit for the erection of the public communications utility tower and to the owner, which shall be mailed by certified mail to the applicants address on the application filed with the Planning Board or to such other address as the applicant may provide to the Planning Board from time-to-time, and also to the owner at the address of record in the Assessor's office, the applicant shall

remove the tower and related facilities and restore the premises. In the event that the applicant fails to remove the tower following notice and demand that the applicant do so, the town shall then have the right to proceed to secure such relief against the applicant to cause the removal and restoration as the town may deem appropriate, including injunctive relief. Where appropriate, the town may elect to proceed under the Town Unsafe Buildings or Collapsed Structures Local Law.<sup>EN(1)</sup> In either event, all costs and expense incurred by the Town of New Windsor in connection with the proceedings to remove or secure, including the cost of actually removing the tower, shall be assessed against the land on which the tower is located.

- (20) Intermunicipal notification for new towers. In order to keep neighboring municipalities informed, and to facilitate the possibility of directing that an existing tall structure or existing telecommunications tower in a neighboring municipality be considered for shared use, and to assist in the continued development of county 911 services, the Board shall require that an applicant who proposes a new telecommunication tower shall notify, in writing, the legislative body of each municipality that borders the Town of New Windsor, the Orange County Planning Department and the Director of Orange County Emergency Services. Notification shall include the exact location of the proposed tower and a general description of the project, including but not limited to, the height of the tower and its capacity for future shared use. Documentation of this notification shall be submitted to the Board at the time of application.
- (21) Notification of nearby landowners. The applicant shall be required to mail notice of the public hearing directly to all landowners whose property is located within 500 feet of the property line of the parcel on which a new tower is proposed. Notice shall also be mailed to the administrator of the state or federal parklands from which the proposed tower would be visible if constructed. Notification, in all cases, shall be made by first-class mail in accordance with Planning Board procedures. Documentation of this notification shall be submitted to, the Board prior to the public hearing.

**Endnotes**

**1 (Popup)**

Editor's Note: See Ch. 42, Unsafe Buildings or Collapsed Structures.

**§ 48-24. Nonconforming uses.**

- A. A nonconforming use is any use, whether of a building or tract of land or both, existing on the effective date of this local law which does not conform to the use regulations of the district in which it is located.
- B. The following provisions shall apply to all nonresidence uses existing on the effective date of this local law which do not conform to the requirements set forth in this local law and to uses that become nonconforming by reason of any subsequent amendment to this local law.
  - (1) Nonconforming uses (nonresidence). Any nonconforming uses of buildings or open land, except those specified in § 48-26 herein, may be continued indefinitely, but:
    - (a) Shall not be changed to another nonconforming use without a special permit from the Planning Board, and then only to a use which, in the opinion of said Board, is of the same or a more restricted nature. [Amended 11-20-1996 by L.L. No. 7-1996]
    - (b) Shall not be reestablished if such use has been discontinued for any reason for a period of two years or more, or has been changed to or replaced by a conforming use. Intent to resume a nonconforming use shall not confer the right to do so.
  - (2) Except as provided in § 48-24B(3) below, no building which houses a nonconforming use shall be:
    - (a) Moved to another location where such use would be nonconforming.
    - (b) Restored for other than a conforming use after damage, from any cause, of 100% of the replacement cost of such building, exclusive of foundations. Any such damaged building may be restored, but not enlarged, if application for a building permit is made within six months and the nonconforming use is reinstated within one year of such damage. If the restoration of such building is not completed within the provisions of § 48-28I, the nonconforming use of such building shall be deemed to have been discontinued, unless such nonconforming use is carried on without interruption in the undamaged portion of such building.
  - (3) Extensions or remodeling of structures used for nonconforming uses. Notwithstanding any other provision of this local law, a structure devoted to such nonconforming use may be extended to an extent not exceeding 30% of its ground floor area existing at the time of the enactment of this local law or any amendment thereto, and provided further that the Board of Appeals shall find that:
    - (a) Practical difficulties prevail in operating the premises or structures in the presently existing nonconforming manner and that the proposed extension or remodeling would constitute reasonable adjustment of the existing nonconforming use or remodeling will reduce the nonconforming use.
    - (b) The proposed extension will not have a deleterious effect on the neighborhood of the existing nonconforming use. In determining deleterious effect, the Planning Board shall take into consideration, among other things, traffic safety, nuisance characteristics, manner of operation, total ground area covered by the structure and



the appearance and condition of the premises. [Amended 11-20-1996 by L.L. No. 7-1996]

- (c) The proposed extension or remodeling will not be more incompatible with or adversely alter the model and character of the neighborhood and neighborhood structures, nor prejudice the value of adjoining properties.
- (d) Adequate or on-site parking and loading space will be provided for all potential users.
- (e) The proposed extension or remodeling will not unduly restrict fire and police protection of the premises and of surrounding properties.

**CUDDY & FEDER LLP**  
**90 MAPLE AVENUE**  
**WHITE PLAINS, NEW YORK 10601-5196**

**WILLIAM V. CUDDY**  
**1971-2000**

NEIL J. ALEXANDER (also CT)  
THOMAS R. BEIRNE (also DC)  
THOMAS M. BLOOMER  
JOSEPH P. CARLUCCI  
LUCIA CHIOCCIO (also CT)  
ROBERT DiSIENA  
KENNETH J. DUBROFF  
ROBERT FEDER  
CHRISTOPHER B. FISHER (also CT)  
ANTHONY B. GIOFFRE III (also CT)  
SUSAN E.H. GORDON  
KAREN G. GRANIK  
JOSHUA J. GRAUER  
KENNETH F. JURIST  
MICHAEL L. KATZ (also NJ)  
JOSHUA E. KIMERLING (also CT)  
DANIEL F. LEARY (also CT)  
BARRY E. LONG

(914) 761-1300  
FACSIMILE (914) 761-5372/6405  
[www.cuddyfeder.com](http://www.cuddyfeder.com)

500 FIFTH AVENUE  
NEW YORK, NEW YORK 10110  
(212) 944-2841  
FACSIMILE (212) 944-2843

WESTAGE BUSINESS CENTER  
300 SOUTH LAKE DRIVE  
FISHKILL, NEW YORK 12524  
(845) 896-2229  
FACSIMILE (845) 896-3672

NORWALK, CONNECTICUT

WILLIAM S. NULL  
DAWN M. PORTNEY  
ELISABETH N. RADOW  
NEIL T. RIMSKY  
RUTH E. ROTH  
JONATHAN S. SAUL (also NJ)  
JENNIFER L. VAN TUYL  
CHAUNCEY L. WALKER (also CA)

Of Counsel  
ANDREW A. GLICKSON (also CT)  
ROBERT L. OSAR (also TX)  
MARYANN M. PALERMO  
ROBERT C. SCHNEIDER

October 20, 2003

**By Federal Express & Fax (845) 563-4695**

Chairman Lawrence Torley and  
Members of the Zoning Board of Appeals  
Town of New Windsor  
555 Union Avenue  
New Windsor, New York 12553

Re: Cellular One (PA2003-1036)  
Shared Use of an Existing Tall Structure (Wireless Facility)  
Request for a Zoning Interpretation/Use Variance Application  
Premises: 535 Toleman Road, Town of New Windsor  
Tax Id.: Section 29, Block 1, Lot 27.51

Dear Chairman Torley and Members of the Zoning Board of Appeals:

This letter is respectfully submitted on behalf of Cellular One in furtherance of the above-referenced application.

As the Zoning Board of Appeals may be aware, Cellular One has entered into a lease agreement with Sunset Crest Realty Corp./WGNV c/o Robert Maines in order to develop a wireless facility on a parcel of property located at 535 Toleman Road in the Town of New Windsor (the "Premises"). At present, the Premises is improved with an approximately 300 square foot "L"-shaped building, and a fenced compound surrounding an approximately 224 foot tall, guy-wired, radio transmissions tower on which WGNV and other communications companies have mounted their antennas.

**The Contextual Background**

On August 15, 2003, Cellular One filed an application for a building permit to mount 9 panel antennas at the 173 foot above grade level ("AGL") on the existing 224 foot tall WGNV radio transmission tower, and to place an associated unmanned 20 foot long by 12 foot wide equipment building at the base of this tower. The dimensions for each panel antenna are approximately 48 inches in length, 6.5 inches in width and 8 inches in depth. The limited purpose of the equipment shelter is the housing of the computer and electrical equipment cabinets necessary to the wireless facility.

By letter dated August 18, 2003, Building Inspector Michael Babcock advised that Cellular One's application required approval from the Town of New Windsor Planning Board.

On September 3, 2003, the Town of New Windsor Planning Board held a work-session in order to discuss Cellular One's application. As a result of that meeting, Cellular One submitted the requested application materials on September 12, 2003 and September 18, 2003.

At the Town of New Windsor Planning Board's October 8, 2003 meeting, the Planning Board Engineer recommended in his October 8, 2003 memorandum that Cellular One "be referred to the Zoning Board of Appeals for an interpretation and/or variance . . ." because it was unclear as to whether Cellular One's development of a wireless facility at the Premises was a permitted use in the R-1 zoning district.

On October 15, 2003, Cellular One attended another Planning Board workshop during which it set forth why its proposed wireless facility for the Premises constitutes the shared use of an existing tall structure, which is a permitted use by special permit in all zoning districts.

That afternoon, Building Inspector Michael Babcock issued a determination relative to Cellular One's pending shared use special permit application that an "interpretation and/or variance [is] needed regarding telecommunications facilities to be located on existing radio tower in an R-1 zone."

### **The Instant Application**

Cellular One hereby formally appeals the October 15, 2003 Building Inspector's determination and seeks an interpretation of the Town of New Windsor Zoning Code from the Zoning Board of Appeals. In particular, Cellular One seeks a determination by the Zoning Board of Appeals that its proposed wireless facility for the Premises constitutes the shared use of an existing tall structure, which is a permitted use by special permit in the R-1 zoning district. In the alternative, should the Zoning Board of Appeals not concur with this conclusion, Cellular One seeks a use variance to permit the development of its proposed wireless facility on the Premises. Cellular One also respectfully submits that, as demonstrated by the site plans and other materials submitted herewith, its proposed development of a wireless facility on the Premises would have a *de minimis* impact on the surrounding neighborhood, particularly considering the myriad of antennas and communications equipment presently atop the existing tower.

### **Cellular One's Proposed Facility Constitutes the Shared Use of an Existing Tall Structure, Which is a Specially Permitted Use in the R-1 Zoning District**

Section 48-21M of the Town of New Windsor Zoning Code is entitled "Telecommunications towers." Among the purposes of this section is "to minimize the total number of telecommunications towers in the community by encouraging shared use of existing and future towers, and the use of existing tall buildings and other high structures. . . ."

In order to effectuate this goal, Section 48-21M creates 3 tiers of review depending on the nature of the wireless facility proposed. If an applicant seeks to develop a Telecommunications Tower, a special permit is required. See Section 48-21M(3)(a). When a future applicant seeks

## CUDDY & FEDER LLP

Chairman Torley and Members of the Zoning Board of Appeals

October 20, 2003

Page 3

---

merely to co-locate on a previously approved Telecommunications Tower, only site plan approval is required. See Section 48-21M(3)(b). However, if an applicant seeks the “[s]hared use of existing tall structures,” it must seek a special permit from the Planning Board pursuant to an abbreviated review. See Section 48-21M(4).

Cellular One respectfully submits that its proposed wireless facility constitutes a shared use of an existing structure and neither a new Telecommunications Tower nor a co-location on a previously approved Telecommunications Tower for the reasons set forth below.

According to Section 48-21M(2) a Telecommunications Tower is any structure which is greater than 35 feet in height. No component of Cellular One’s proposal is greater than 35 feet in height. Each antenna is a mere 48 inches in height and the related equipment shelter is approximately 10 feet tall. It is also noteworthy that the Planning Board cannot even consider an application for a new Telecommunications Tower unless “the applicant demonstrates that shared use of existing tall structures and existing or approved towers is impractical.” See Section 48-21M(5). Further, “[w]here shared use of existing tall structures and existing or approved towers is found to be impractical, the applicant shall investigate shared usage of an existing tower site for its ability to accommodate a new tower and accessory uses [i.e., clustering].” It is not until all these other alternatives have been exhausted that an applicant can propose a new tower at a new location. Section 48-21M(7). These requirements are consistent with Section 48-21M(3)(c)’s limitation of Telecommunications Towers to specific zoning districts.<sup>1</sup>

In contrast with the development of Telecommunications Towers, shared use of existing tall structures is encouraged throughout Section 48-21M. Indeed, the shared use of existing tall structures and existing or approved towers is preferred to the construction of new towers at all times. See Section 48-21M(4). Section 48-21M(4), which governs shared use applications, expressly lists the submission materials, and notes in sub-section (b) that “[i]f an applicant proposing to share use of an existing tall structure submits complete and satisfactory documentation in accordance with Subsection M(4)(a)[1] through [6] above, and if modifications indicated according to those subsections are deemed insignificant by the Planning Board, and after the Planning Board conducts a public hearing and complies with all State Environmental Quality Review Act (SEQRA) provisions, the [Planning] Board shall grant a special permit without further review . . . .” Moreover, in an attempt to create incentives for shared use, the Planning Board is overtly given the authority in sub-section (c) of the shared use provisions to “modify or waive setback or lot area requirements in the event that they are not deemed necessary for safety or other valid planning purposes for the site.” Additionally, shared use is so preferred to new Telecommunications Towers that Section 48-21M(8) requires all applicants to structurally design new Telecommunications Tower to handle co-location, and to agree in writing to allow co-location.

---

<sup>1</sup> Any claim that the purpose of Section 48-21M(3)(c) is to prevent the development of all telecommunications sites in any zoning district other than the AP, PI, OLI, C and NC zones clearly violates the federal Communications Act of 1934, as amended by the Telecommunications Act of 1996, because it would “prohibit or have the effect of prohibiting the provision of personal wireless services.” See Exhibit A, entitled “The Mandate of the Telecommunications Act of 1996,” and Exhibit B, which is a copy of a written, advisory, legal opinion issued by the Federal Communications Commission through its Wireless Telecommunications Bureau and Commercial Wireless Division, dated September 2, 1997, related to a city’s lack of authority to prohibit wireless facilities in certain zones.

Based on the above, it is clear that Cellular One's desire to mount 9 panel antennas at the 173 foot above grade level ("AGL") on the existing 224 foot tall WGNV radio transmission tower and to place an associated unmanned 20 foot long by 12 foot wide equipment building at the base this tower does not involve the development of a Telecommunications Tower. Cellular One also acknowledges that its application does not entail co-location on a Telecommunications Tower. Rather, Cellular One respectfully submits that its proposed wireless facility for the Premises constitutes the shared use of an existing tall structure (i.e., the existing radio transmission tower), which is a specially permitted use in the R-1 zoning district.

In rendering its interpretation, Cellular One respectfully requests that the Zoning Board of Appeals be mindful that, the principle that zoning ordinances must be strictly construed in favor of property owners and against municipalities because zoning regulations are in derogation of common-law property rights, is firmly established in this State. See Raritan Development Corp. v. Silva, 91 N.Y.2d 98, 667 N.Y.S.2d 327 (1997); Chrysler Realty, 196 A.D.2d 631, 601 N.Y.S.2d 194 (2d Dept. 1993); NYSMSA v. Town of Islip, A.D.2d \_\_\_, N.Y.S.2d \_\_\_ (2d Dept. 2002) N.Y.L.J. December 9, 2002. Indeed, the Court of Appeals held in City of New York v. Les Hommes, 94 N.Y.2d 267, 702 N.Y.S.2d 576 (1999) that "[t]he cases guiding [the court's] analysis in this area require that [the court] show a healthy respect for the plain language employed and that it be construed in favor of the property owner and against the municipality which adopted and seeks to enforce it." This decision is consistent with its holding in Thomson Industries, Inc. v. Village of Port Washington, 27 N.Y.2d 537, 313 N.Y.S.2d 117 (1970), where the Court of Appeals strictly construed the term "heliport" and found that the term as employed in the zoning code only applied to commercial operations and not to appellant's personal takeoff and landing of its helicopter. Numerous other courts have also recognized this doctrine. See Toys "R" Us v. Silva, 229 A.D.2d 308, 646 N.Y.S.2d 91 (1st Dept. 1996)(holding that "[z]oning ordinances must be narrowly interpreted and ambiguities are to be construed against the zoning authority"), rev'd on other grounds, 89 N.Y.2d 411, 654 N.Y.S.2d 100 (1996); Mandel v. Nusbaum, 138 A.D.2d 597, 526 N.Y.S.2d 179 (2d Dept. 1988)(noting the strict construction requirement applicable to zoning ordinances); Matter of Sinon v. Zoning Board of Appeals of the Town of Shelter Island, 117 A.D.2d 606, 497 N.Y.S.2d 952 (2d Dept. 1986). It is also an accepted rule of statutory construction that an interpreting authority must ascribe the ordinary and logical meaning to all terms in a zoning law. See McKinney's, Statutes, Section 232.<sup>2</sup>

Here, the utilization of the above statutory rules and consideration of the Telecommunications Act's legal requirement that local regulations "shall not prohibit or have the effect of prohibiting the provision of personal wireless services" in combination with the Town's

---

<sup>2</sup> McKinney's, Statutes, Section 232 provides:

It is a general rule in the interpretation of statutes that the legislative intent is primarily to be determined from the language used in an act, considering the language in its most natural and obvious sense. From this general rule, it is deducible that words of ordinary import are to be construed according to their ordinary and popular significance, and are to be given their ordinary and usual meaning... In the framing of laws intended for the people, the Legislature should attempt to give them a meaning which will not be misunderstood by the citizenry, and the lawmakers are presumed to have used words as they are commonly or ordinarily employed, unless there is something in the context or purpose of the act which shows a contrary intention. So, the court must apply to language the meaning and effect generally attributed to words by common speech of men, and not by some esoteric standard....

clear dislike of new Telecommunications Towers, requires the Zoning Board of Appeals to conclude that an existing radio transmission tower is akin to the enumerated existing tall structures (i.e., municipal water towers, multistory buildings, church steeples and farm silos) and dissimilar from a Telecommunications Tower. Consequently, it is respectfully submitted that Cellular One's proposed wireless facility for the Premises constitutes the shared use of an existing tall structure, which is a specially permitted use in the R-1 zoning district.

**Alternatively, Approval of Cellular One's Use Variance Application is Warranted Because It Fully Complies with the Applicable Criteria**

In the event the Town of New Windsor Zoning Board of Appeals does not agree with Cellular One's position that its proposed wireless facility constitutes the shared use of an existing tall structure, Cellular One seeks in the alternative a use variance in order to develop its wireless facility on the Premises.

Pursuant to New York State Town Law Section 267-b(3), a zoning board of appeals may grant a use variance if the applicant has demonstrated that the applicable zoning regulations and restrictions have caused unnecessary hardship. "In order to prove such unnecessary hardship the applicant shall demonstrate to the board of appeals that for each and every permitted use under the zoning regulations for the particular district where the property is located:

- (i) the applicant cannot realize a reasonable return, provided that lack of return is substantial as demonstrated by competent financial evidence;
- (ii) the alleged hardship relating to the property in question is unique, and does not apply to a substantial portion of the district or neighborhood;
- (iii) the requested use variance, if granted, will not alter the essential character of the neighborhood; and
- (iv) the alleged hardship has not been self-created."

However, it has long been recognized by the prevailing case law in the State of New York that public utilities are not subject to the same exacting standards necessary to obtain a variance as are other entities. Instead, a zoning board of appeals reviewing an area or use variance application by a public utility must apply the less restrictive standard of "public necessity." The difference in these standards has been set forth as follows:

... the utility must show that modification is a public necessity in that it is required to render safe and adequate service, and that there are compelling reasons, economic or otherwise, which make it more feasible to modify the plant than to use alternate sources of power such as may be provided by other facilities.... [And,] where the intrusion or burden on the community is minimal, the showing required by the utility should be correspondingly reduced. Consolidated Edison Co. of New York v. Hoffman, 43 N.Y.2d 598, 374 N.E.2d 105, 403 N.Y.S.2d 193 (1978); Matter of Cellular One v. Rosenberg, 153 Misc.2d 302, 581 N.Y.S.2d 554 (Westchester Co. 1992), affirmed, 188 A.D.2d 648, 591 N.Y.S.2d 526 (2d Dept. 1992), affirmed, 82 N.Y.2d 364, 624 N.E.2d 990, 604 N.Y.S.2d 895 (1993).

In short, the "public necessity" standard provides that "a zoning board may not exclude a utility from a community where the utility has shown a need for its facilities." Consolidated Edison Co. of New York v. Hoffman, 43 N.Y.2d at 610; Matter of Cellular One v. Rosenberg, 604 N.Y.S.2d at 899. The "public necessity" standard applies to all public utilities. It applies to entirely new facilities as well as the expansion of existing facilities. Moreover, wireless companies, such as Cellular One, have been determined to be public utilities subject to the "public necessity" standard and not New York State Town Law Section 267-b. Consequently, the New York State Courts have determined that a zoning board of appeals must utilize the following less restrictive standard in evaluating a variance application:

A balance must be maintained between those interests of the locality which can be expressed by Zoning Ordinances and the needs of the community which must be served by the utility...not only is it within the power of Respondent [the Town] to grant a Variance but the fact that the applicant is a utility calls for the balancing of interests. Consolidated Edison Co. of New York v. Hoffman, *supra*.

As demonstrated herein, it is respectfully submitted that Cellular One's use variance application conforms to the requirements of the "public necessity" standard because it establishes that the development of the proposed wireless facility would enable Cellular One to remedy gaps in its coverage that currently prevent it from providing adequate service to its customers in the Town of New Windsor.

Cellular One's existing wireless network is not adequate to properly service its customers who live in and travel through the Town of New Windsor. Cellular One currently has only limited wireless service in the Town of New Windsor. Indeed, a Radio Frequency Report, prepared by Dan Hubbard, a Radio Frequency Engineer with Cellular One, dated September 30, 2003, has been submitted. This report attests to Cellular One's need for a wireless facility in the vicinity of the Premises in order to provide wireless service along Route 207 from Interstate 87 west to Route 208 and from Route 207 to the Town of Washingtonville along Toleman Road. The report also substantiates that the existing Nextel Communication monopole across Toleman Road from the Premises is not a viable alternative facility for co-location. Thus, Cellular One will not be able to provide its FCC licensed service throughout the Town of New Windsor without the requested relief.

By mounting its antennas on the existing radio transmission tower, Cellular One can provide its service to the public with only *de minimis* visual impact to the surrounding neighborhood. Photosimulations have been submitted, which depict the Premises as it exists today and as it would look after the installation of Cellular One's facility on the Premises. Reference to those photosimulations reveals that Cellular One's proposed facility will not be distinguishable from the other radio and communications facilities on the Premises.

Additionally, the proposed wireless facility will not adversely affect the health, safety or welfare of the public. The radio frequency emissions associated with the proposed facility are below the limits adopted by the FCC as required by the Telecommunications Act.

Further, the proposed wireless facility will have no impact on the use of the Premises. It is also noteworthy that Cellular One's proposed wireless facility will not generate additional traffic, nor will it have any impact on pedestrian or vehicular traffic because it is unmanned, and

only requires quarterly maintenance visits by a service technician that generally last for an hour. During these infrequent visits, the technician will use the existing access and on-site parking. In addition to these maintenance visits, the wireless facility will be monitored by Cellular One 24 hours a day, 7 days a week from a remote location.

Cellular One's proposed wireless facility will not produce any discernable smoke, gas, odors, heat, vibrations or noise. No water, sewage disposal or other public services will be associated with the facility. Further, the proposed facility will not result in additional storm water runoff, nor does it require any outdoor lighting improvements. No commercial signs are proposed by Cellular One. Thus, it is respectfully submitted that the proposed facility will not affect the current or future use of the Premises or the adjacent lands.

Based on the law as set forth by the New York State Courts, the public necessity of Cellular One's service, the need for the installation of the proposed wireless facility and its minor impacts, if any, upon the Town, Cellular One respectfully submits that the granting of the requested use variance is warranted. It is further submitted that approval of Cellular One's wireless facility is consistent with the procedural and substantive requirements set forth in the Communications Act of 1934, as amended by the Telecommunications Act of 1996, and the FCC's rules and regulations.

#### **Materials Submitted in Support of the Application**

In support of its request for an interpretation, or alternatively a use variance, the Chazen Companies have submitted under separate cover 10 sets of the following materials on behalf of Cellular One:

1. October 15, 2003 Denial Letter issued by Building Inspector Michael Babcock.
2. Completed Town of New Windsor Variance Application Forms.
3. An Owner's Consent Form evidencing Cellular One's authority to file this application.
4. A Full Environmental Assessment Form, dated October 17, 2003, prepared in accordance with Article 8 of the New York State Environmental Conservation Law and the rules and regulations promulgated thereunder at 6 N.Y.C.R.R. Part 617 ("SEQRA").
5. A Visual EAF Addendum.
6. Photosimulations, which depict the Premises as it exists today and as it would look after the installation of Cellular One's wireless facility.
7. A Radio Frequency Affidavit, dated September 30, 2003, prepared by Dan Hubbard, a Cellular One Radio Frequency Engineer, justifying Cellular One's need for the wireless facility.
8. Site Plan Drawings, dated September 10, 2003, last revised October 16, 2003.
9. A Tower Structural Analysis Report, dated September 8, 2003.



CUDDY & FEDER LLP

Chairman Torley and Members of the Zoning Board of Appeals

October 20, 2003

Page 8

---

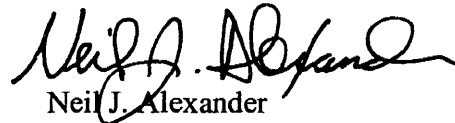
10. Checks made payable to the "Town of New Windsor" in the amounts of \$150, \$500, and \$25, which constitute payment of the application fee, the escrow and the deposit for the public hearing list.

**Conclusion**

It is respectfully submitted that Cellular One's proposed wireless facility constitutes the shared use of an existing tall structure, which is a specially permitted use in the R1 zoning district subject to review by the Planning Board. In the alternative, Cellular One respectfully submits that approval of its variance application is warranted based on the foregoing materials because it fully complies with the applicable variance criteria. It is also noteworthy that Cellular One's proposed wireless facility constitutes the least intrusive means available for filling its gap in wireless service.

Cellular One looks forward to appearing before the Zoning Board of Appeals and respectfully request that this application be placed on the next available agenda. Should the Zoning Board of Appeals or Town Staff have any questions or comments in the interim, please feel free to contact me. Thank you in advance for your cooperation and consideration in this matter.

Very truly yours,



Neil J. Alexander

NJA/dt

Enclosures

cc: Chairman James Petro and Members of the Planning Board  
Mark J. Edsall, PE, Town Engineer, by fax: (845) 567-3232  
Michael Babcock, Building Inspector, by fax: (845) 563-4685  
Philip Crotty, Esq., Town Attorney, by fax: (845) 562-6788  
Andrew S. Krieger, Esq., Zoning Board of Appeals Attorney  
Kevin Brennan, Cellular One, by fax: (845) 483-8405  
Dan Hubbard, Cellular One Radio Frequency Engineer  
Kelly Libolt, AICP, The Chazen Companies, by fax: (845) 454-4026  
Eva L. Billeci, AICP, The Chazen Companies

## **EXHIBIT "A"**

### **The Mandate of the Telecommunications Act of 1996**

The regulation of "personal wireless service facilities" is specifically addressed in § 704 of the Telecommunications Act of 1996, codified in 47 USC § 332(c)(7)(B). The Telecommunications Act of 1996 is an omnibus overhaul of the federal regulation of communications companies intended to provide for a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services by opening all telecommunications markets to competition. In furtherance of this goal, Congress enacted provisions in the Telecommunications Act that limit State and local governmental authority to deny the construction of wireless telecommunications towers and regulate how such decisions must be made.

Indeed, the explicit preemptive language of the Telecommunications Act makes it clear that there are five (5) limitations on state or local regulation of the placement, construction and modification of "Personal Wireless Service Facilities":

- (1) local regulations may not unreasonably discriminate among providers;
- (2) local regulations "shall not prohibit or have the effect of prohibiting the provision of personal wireless services;"
- (3) a request for permission to place or construct wireless telecommunications facilities must be acted on within a reasonable time;
- (4) any denial to place, construct, or modify personal wireless services must be in writing and supported by substantial evidence contained in a written record;
- (5) local regulations may not regulate the placement, construction or modification of personal wireless service facilities on the basis of the "environmental effects of radio frequency emissions" as long as the facilities meet standards set by the FCC. The Telecommunications Act, 47 USC § 332(c)(7)(B).

The legislative history of the Telecommunications Act emphasized the requirement that local regulations cannot prohibit or have the effect of prohibiting personal wireless facilities. The conference report accompanying § 704 explains:

Actions taken by state or local governments shall not prohibit or have the effect of prohibiting the placement, construction or modification of personal wireless services. It is the intent of this section that bans or policies that have the effect of banning personal wireless services or facilities not be allowed and that decisions be made on a case-by-case basis. H.C.R. No. 104-458, 104<sup>th</sup> Congress, 2d Sess. 208 (1996), reprinted in 1996 U.S.C.A.A.N. 222. See also Cellular Telephone Co. v. Town of Oyster Bay, 166 F.3d 490, 493 (S.D.N.Y. 1999).

The Telecommunications Act clearly prohibits local governments from enforcing outright bans on wireless telecommunications facilities. Further, any zoning limitations on placement or construction of facilities may not have the effect of precluding a wireless telecommunications provider's ability to offer service.

Also salient is the Telecommunications Act's express prohibition that a local zoning authority may not unreasonably discriminate among "functionally equivalent service providers." See The Telecommunications Act, 47 USC § 332(c)(7)(B)(i)(I). If communications companies are already providing personal wireless services within the Town of New Windsor (such as Sprint, Verizon, Nextel, and VoiceStream), decisions by zoning agencies may not

discriminate and must allow for competitors, such as Cellular One, to operate in the Town on an equal footing. 47 USC § 332(c)(7)(B)(iv). See also Sprint Spectrum, LP v. Willoth, 176 F.3d 630 (2d Cir. 1999). Accordingly, all state and local zoning actions with respect to wireless facilities must be in accordance with the above-cited provisions of the Telecommunications Act.

More recently, Congress enacted, on October 26, 1999, the Wireless Communications and Public Safety Act of 1999 ("911 Act"), which mandates that wireless carriers promptly implement Basic and then Enhanced 911 service. The overall purpose of the 911 Act is to encourage and facilitate the prompt deployment throughout the United States of a seamless, ubiquitous and reliable end-to-end infrastructure for emergency communications, including wireless communications, to meet the nation's public safety and other emergency communications needs. Congress found that the establishment of a network that provided for the rapid, efficient deployment of emergency services would result in many public benefits including faster delivery of emergency care with reduced fatalities and severity of injuries and improved service in rural areas. Congress also noted that in our increasingly mobile society reliance on wireless phones in emergency situations has grown to such an extent that wireless 911 callers are now experiencing problems in obtaining prompt, reliable aid when compared to wireline 911 callers.

On the roadways, consumers are using these phones to call for help for themselves, to report accidents or injuries to other drivers and to report erratic or aggressive drivers before others are injured. Consequently, the FCC has adopted rules requiring wireless carriers to provide both Basic 911 service, which connects the caller to a public safety answering point ("PSAP"), and Enhanced 911 service, which provides certain information to assist the PSAP in locating the caller, in a timely fashion throughout the country. Further, in the 911 Act, Congress included several provisions in order to facilitate expeditious achievement of improvements in the wireless emergency communications systems provided by wireless carriers licensed by the FCC.

September 2, 1997

Mr. Mark G. Sellers

City Attorney

City of Thousand Oaks

2100 Thousand Oaks Boulevard

Thousand Oaks, California 91362-2903

RE: Request for Written Response on City's Authority to Prohibit Transmission Facilities in Certain Zones.

Dear Mr. Sellers:

I am writing in response to your correspondence dated July 22, 1997, requesting the Commission's input on several issues concerning the location and installation of transmission facilities for "wireless telecommunications services" in the city of Thousand Oaks, California ("the City"). You note that the City is currently drafting an ordinance which would regulate such activities. While you have not provided us with a draft of the ordinance, I will attempt to respond to the questions raised in your letter. Please note that the views stated herein are strictly advisory and reflect the views of the staff of the Commercial Wireless Division only. This letter does not constitute a formal ruling by the Wireless Telecommunications Bureau or the Commission.

At the outset, I note that you do not define the term "wireless telecommunications services." Therefore, please note that this opinion only relates to the construction, placement or modification of "personal wireless service facilities" as that term is defined in Section 332(c)(7)(C)(ii) of the Communications Act of 1934, as amended ("the Act").

You inquire as to whether the City may prohibit the location of transmission facilities in all "residential" or "open spaces" which comprise 70% to 80% of the City. Facilities would be allowed only in "commercial" or "industrial" zones where you currently have a height restriction of 35 feet. You request an opinion as to whether such regulations would be consistent with the Act. You also request an opinion as to whether the City's regulations (relating to "location and height of facilities") must allow carriers to provide coverage over the entire City.

Section 332(c)(7)(A) of the Communications Act of 1934, as amended, preserves State and local governments' authority over decisions regarding the placement, construction, and modification of personal wireless service facilities. At the same time, Section 332(c)(7)(B) contains certain limitations to that authority. Section 332(c)(7)(B)(i)(II) states that the regulation of personal wireless service facilities shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

Whether your proposed location and height restrictions would "prohibit or have the effect of prohibiting personal wireless services" is a question that would have to be reviewed pursuant to Section 332(c)(7)(B)(i)(II) on a case-by-case basis after full examination of the specific facts and circumstances. We note that under the statute, such review is reserved to the courts rather than the FCC. We believe it could

plausibly be argued, however, that the existing height restriction of 35 feet, combined with the proposed location restriction that would prohibit siting on 70% - 80% of the available land area in the City is sufficiently restrictive to be viewed as effectively prohibiting the provision of personal wireless services.

You also inquire as to whether carriers are required to provide a certain level of coverage to your City and, if so, who determines whether the level of local coverage is sufficient? The Commission's rules for licensees in the personal wireless services differ from service to service but, generally speaking, so long as a licensee provides significant coverage throughout its licensed area, the rules do not require that a level of coverage be met with respect to specific cities or towns. As to whether your regulations must permit coverage over the entire City, as noted above, Section 332(c)(7)(B)(i)(II) does not permit state and local governments to effectively prohibit the provision of service. While the term "effectively prohibit" is not defined, a plain reading could suggest that state and local governments are not permitted to drastically limit the availability of service within significant portions of their jurisdictions. Thus, any regulation or action that does not permit reasonable means to offer a desired quality of service to substantial areas of the City is arguably prohibited. Again, however, application of Section 332(c)(7)(B)(i)(II) to specific circumstances is reserved for the courts to decide.

I trust that this response answers all of your questions. Should you have any additional questions concerning these matters, please feel free to contact the Wireless Telecommunications Bureau.

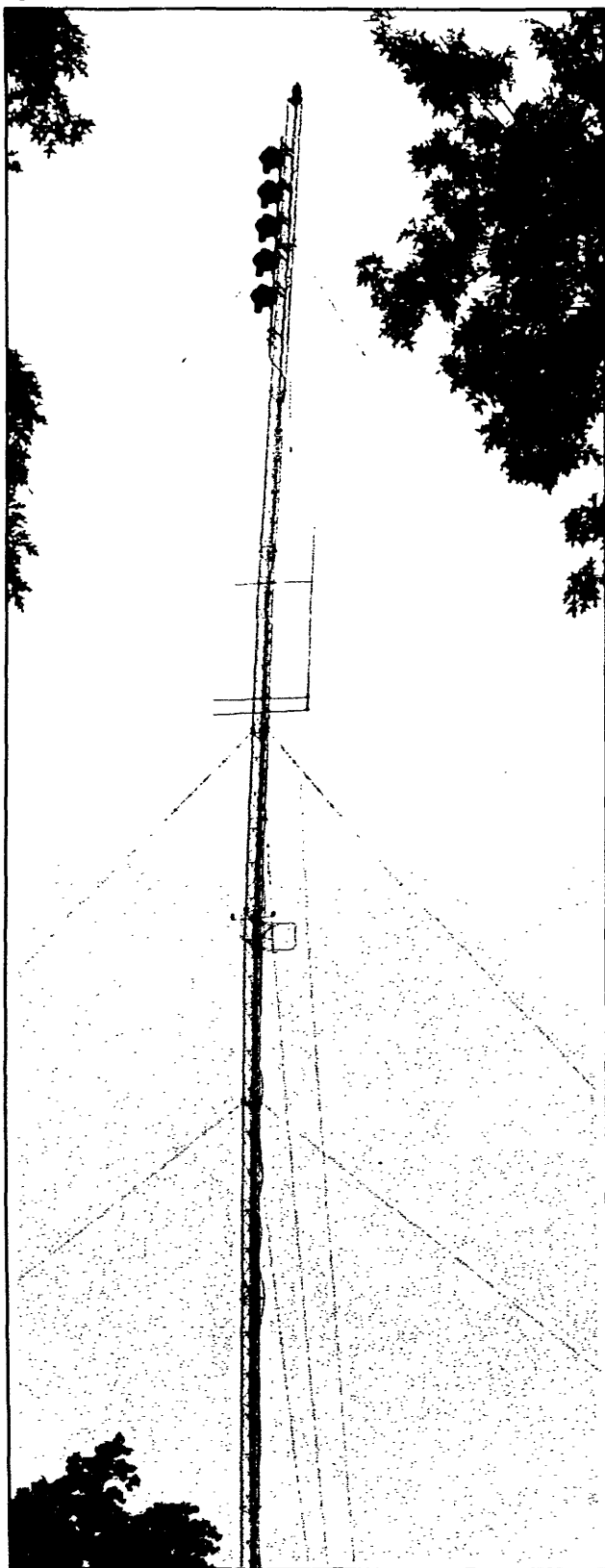
Very truly yours,

Shaun A. Maher

Attorney-Advisor

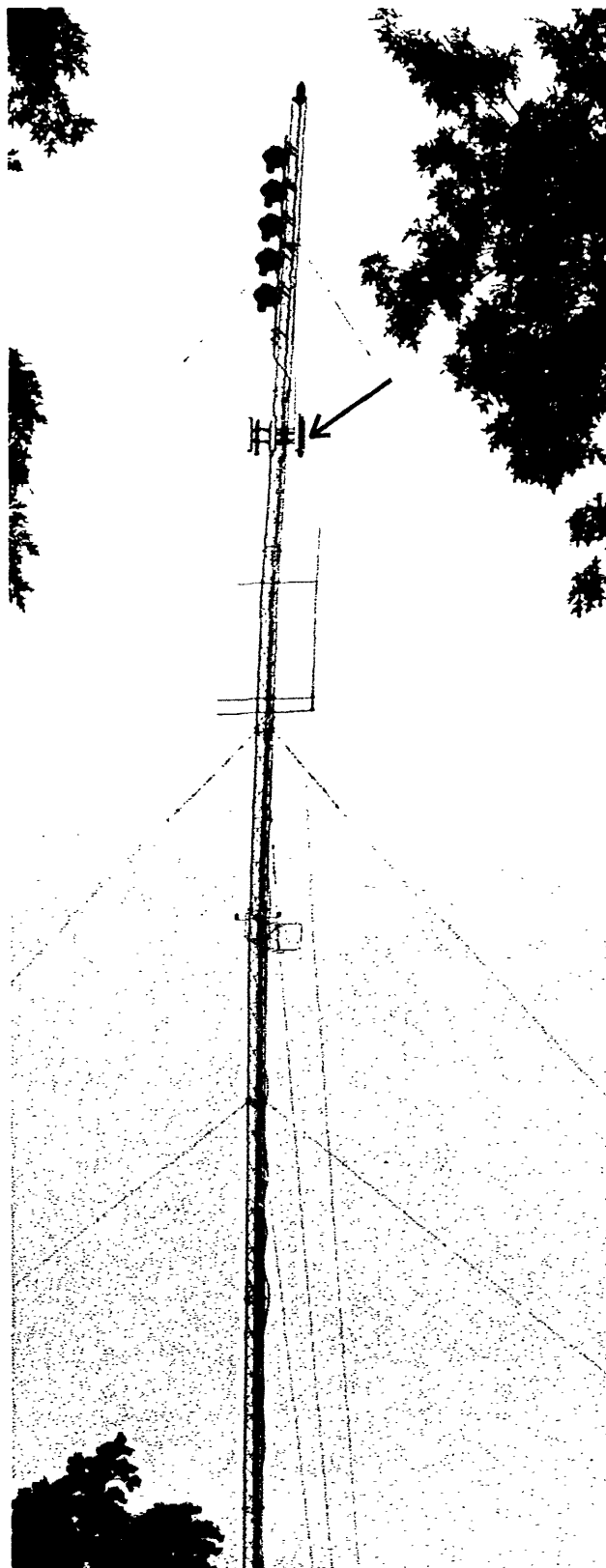
Commercial Wireless Division

Wireless Telecommunications Bureau



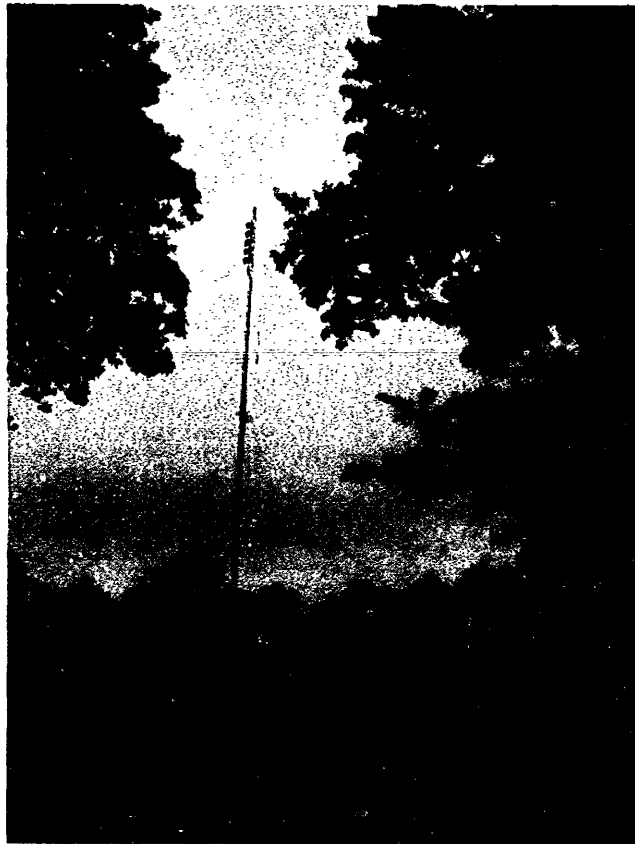
**Figure 1**

Existing view as seen from Figure 1.



**Figure 1a**

View of proposed 9 panel antennas  
superimposed onto the photograph of Figure 1.



**Figure 2**

Existing view as seen from Figure 2.



**Figure 2a**

View of proposed 9 panel antennas superimposed  
onto the photograph from Figure 2.

**Tower Structural Analysis Report  
for  
New Windsor  
Town of New Windsor  
Orange County, New York**

**September 8, 2003**



**Prepared by:  
Capital District Office:  
The Chazen Companies  
20 Gurley Avenue  
Troy, New York 12182**

**Prepared for:  
Mr. Kevin Brennan  
Cellular One  
1351 Route 55  
LaGrangeville, NY 125840**

*Dutchess County  
(845) 454-3980*

*North Country Office  
(518) 812-0513*

*Orange County  
(845) 567-1133*



## Structural Analysis Report

220' Guyed Tower  
New Windsor, New York  
The Chazen Companies Project # 10381.00

Contact Person:  
Eva Billeci  
Client Manager  
email: <mailto:ebilleci@chazencompanies.com>  
Telephone: (845) 454-3980 ext. 474

Completed under the Supervision and Approval by  
Daniel W. Stone, P.E.  
Principal  
Telephone: (845) 454-3980



DANIEL W. STONE  
NYSPE 052135

Daniel W. Stone NY Professional Engineer #052135

## TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY.....	1
2.0	MODEL ASSUMPTIONS.....	1
3.0	RESULTS OF TOWER CLIMB.....	1
4.0	EXISTING/PROPOSED ANTENNA & CABLE LOADING.....	2
5.0	CURRENT WIND LOADING REQUIREMENTS.....	3
6.0	RESULTS .....	3
	Tower Superstructure Results .....	3
	Foundation Results .....	3
7.0	RECOMMENDATIONS .....	3

Appendix A: Mid State Communications Tower Mapping & Inspection,  
August 22, 2003

Appendix B: Model Results (Prior to Retrofit)

Appendix C: Model Results (After Retrofit)

## 1.0 EXECUTIVE SUMMARY

Chazen Engineering & Land Surveying Co., P.C. (CELS) performed a structural analysis of the existing 220-foot guyed tower located in the Town of New Windsor, Orange County, New York. The results of the analysis indicate the existing tower superstructure is not adequate to support the existing and proposed loads; however, with modifications, the tower superstructure can be made adequate to support the existing and proposed loads.

## 2.0 MODEL ASSUMPTIONS

- All tower steel is assumed to be ASTM A36;
- All tower member properties are defined by the Mid-State Communications Tower Mapping & Inspection dated August 22, 2003 (Appendix A);
- The proposed coaxial cables are to be stacked to a maximum width of 13 ½”;
- Any deviation from the analyzed loading will require a subsequent tower analysis for verification of structural integrity;
- This analysis assumes all tower members are galvanized adequately to prevent corrosion of the steel;
- Accounting for residual stresses due to incorrect tower erection cannot be made from the visual observation of the tower;
- The tower was erected and maintained in accordance with the manufacturer's plans and specifications and is plumb;
- The information concerning the components, existing and proposed, is accurate.

## 3.0 RESULTS OF TOWER CLIMB

A summary of the climb performed by Mid-State Communications, on August 22, 2003 regarding the condition of the tower is as follows:

- Bolts are appropriately tightened providing the necessary connection continuity;
- The tower is plumb;
- There was no observed damage, natural or manmade, to the structure, either gradual or sudden except one diagonal as noted in the inspection report; and,

- There were no observed modifications to the tower itself, except as may be disclosed elsewhere in this report.

A detailed report of the findings can be found in Appendix A.

#### 4.0 EXISTING/PROPOSED ANTENNA & CABLE LOADING

Existing antenna loading included in this analysis was provided by a Tower Climb performed by Mid-State Communications on August 22, 2003 (Appendix A).

##### EXISTING

<u>Antenna Description</u>	<u>Height*</u>	<u>Cable Description</u>
(1) Unisys FA10207/3 FAA Horn	42'-2"	(1)-1/2" Coaxial Cable
(1) Scala PRF 950 Corner Reflector	116'-4"	(1)-LDF5-50A
(2) Obstruction Lights	118'	(1)-1" Conduit
(1) Stationmaster Whip Antenna	141'	(1)- LDF5-50A
(1) 5-Bay FM Antenna	190'-210'+/-	(1)-15850J
(1) Beacon	220' +/-	(1)-1" Conduit

\*Height is the centerline of attachment

##### PROPOSED

<u>Antenna Description</u>	<u>Height*</u>	<u>Cable Description</u>
(9) Decibel DB844H90E Panel Antennas	173'	(9)-1 5/8"

\*HEIGHT IS THE CENTERLINE OF ATTACHMENT

These antennas and cables represent CELS's understanding of the loading required. Please contact CELS if any discrepancies are evident. If antennas or cables, other than those indicated above are installed on this structure, this analysis is invalid.

## 5.0 CURRENT WIND LOADING REQUIREMENTS

This analysis has been completed in accordance with the Telecommunications Industry Association Standard (TIA/EIA 222-F 1996) recommended standards for Orange County. CELS has analyzed this structure using the following wind speed and ice criteria

Code/Standard	Wind Loading	Ice	Wind Load Reduction Used
TIA/EIA-222-F	70 mph fastest mile	None	None
TIA/EIA-222-F	70 mph fastest mile	½" Radial	25%

## 6.0 RESULTS

### Tower Superstructure Results

Under the 70-mph wind with ½" radial ice scenario, our results indicate a maximum stress of 134.5% of the tower superstructure's capacity. This scenario is the worst case, as can be seen from the results provided in Appendix B. As such, the existing tower superstructure is not capable of supporting the existing and proposed equipment under the required load cases.

It is possible to retrofit the existing tower structure to increase its capacity to adequately support the existing and proposed telecommunications equipment.

### Foundation Results

CELS has performed an analysis of the tower superstructure only. Tower foundation information has not been provided; therefore foundation analysis and/or review has not been performed. At this time CELS cannot provide a professional opinion regarding the structural integrity, adequacy, or capacity of the foundation system.

## 7.0 RECOMMENDATIONS

CELS recommends replacing the guy cables with those indicated in the table below. An analysis of the tower with the proposed superstructure modifications indicates a maximum stress of 94.4% of the tower superstructure capacity under the 70-mph with ½" radial ice scenario (Appendix C). As such, the tower superstructure would be capable of supporting the existing and proposed load scenarios if these design modifications are followed.

As was stated above, foundation information was not available at the time of our analysis; as such, we have not analyzed the existing foundations, including the guy anchor foundations, and therefore cannot provide recommendations.

<i>Elevation (ft)</i>	<i>Existing Size</i>	<i>New Size</i>
200.25	3/8" EHS	1/2" EHS
139.75	3/8" EHS	7/16" EHS
99.75	3/8" EHS	3/8" EHS (N/C*)
50.00	3/8" EHS	3/8" EHS (N/C*)

\*N/C denotes no change.

**APPENDIX A: Mid-State Communications Tower  
Inspection Report, August 22, 2003**



# TOWER INSPECTION REPORT

## Guyed Towers

STATEMENT OF PURPOSE: It is Mid-States Policy to inspect the entire Tower Facility equal to and Beyond the Manufactures Specifications and to determine if there are any observable structural or transmission System problems.

<b>General</b>		Mid-State Project Number: 03-450	
Owner: WGNV		Date: 8/22/03	Time: 9:30
Location: 535 Tolernan Road		Site Number: FCC# 1007160	
Wind (Approx): NW MPH: 0-5 DIR		Temperature: 90	
Latitude: Not DEG: Available MIN: SEC		Longitude: Not Available DEG: MIN: SEC	

<b>Tower Steel</b>		
Manufacturer of Tower: Not Labeled		
Height: 220' Not taped all the way	Number of Legs: 3	Angle: <input type="checkbox"/> Pipe: <input checked="" type="checkbox"/>
Was Tower Plumb & Level as Found: YES: <input checked="" type="checkbox"/> NO: <input type="checkbox"/> If No Explain: Within specifications		
Signs of Rust: YES: <input checked="" type="checkbox"/> NO: <input type="checkbox"/> (Photo if Yes)		Missing Members: YES: <input type="checkbox"/> NO: <input checked="" type="checkbox"/> (Photo if Yes)
Painted: YES: <input checked="" type="checkbox"/> NO: <input type="checkbox"/> Condition of Paint: Good-Aviation Orange / White		
Bolts Tight: YES: <input checked="" type="checkbox"/> NO: <input type="checkbox"/> Condition of Bolts: Good 9/16" x 3"		
Type of Waveguide Bridge: (Photo if Irregular) None		
Distance from Leg Center to Leg Center: 20"		Base Number: Not Found
Drainage (Weepholes Clear): YES: <input type="checkbox"/> NO: <input type="checkbox"/> Explain: N/A Solid Leg		

<b>Foundation</b>	<b>Section 2</b>
Foundation Cond: (Photo): Good	Anchor Cond: Poor-See Remarks
Soil Condition: Normal: <input checked="" type="checkbox"/> Rock: <input type="checkbox"/> Swamp: <input type="checkbox"/> Sand: <input type="checkbox"/>	

<b>Guy Wire &amp; Appurtenances</b>	<b>Section 3</b>
Preforms Cond: (Photo): Fair-Rusted surface	Turnbuckles Cond: Fair 5/8"
Guy Wire Cond: Fair-Surface to pitted	Safety Wire Cond: Fair-Not a figure 8
Grounding Cables Condition: Bad-No groundgin	Clamps Condition: Fair-Slight Rust
Antennas Condition: Good-FM Bays not checked	Brackets Condition: Fair-Slight Ruse
Transmission Line Condition: Good	Transmission Line Attached Well: YES: <input checked="" type="checkbox"/> NO: <input type="checkbox"/>
Safety Climb: YES: <input type="checkbox"/> NO: <input checked="" type="checkbox"/> Cond: N/A	Explain:
Is Lightning Protection Adequate: YES: <input type="checkbox"/> NO: <input checked="" type="checkbox"/> Explain: See Remarks	
Note: The Term "Good" as used in this report indicates the item was found to be in serviceable condition.	



**Lighting & Tower Grounding****Section 4**Tower Lights Operational: YES: ☐ NO: ☐ If NO were repairs completed: YES: ☐ NO: ☐

List Lamps Used: Beacon QTY: 0 OB QTY: 0 Spares remaining on site: Beacon QTY: 0 OB QTY: 0

Describe Condition of the Following: Conduit: 1" Conduit run up East face of tower

Flasher Unit : Not Checked

Wiring: Not Checked

Lens Covers: Not Checked

Photo Electric Control: Not Checked

Is Tower Grounding up to Standards: YES: ☐ NO: ☒Is Antenna System Grounding up to Standards: YES: ☒ NO: ☐**Equipment Shelter****Section 5**

Manufacturer of Building:

Pad Type: Concrete Pad: ☐ Concrete Pier: ☐ Gravel: ☐ None: ☐ Other:Is Building Level: YES: ☐ NO: ☐Any Visible Signs of Leaks: YES: ☐ NO: ☐Any Signs of Exterior Rust or Paint Problems: YES: ☐ NO: ☐Is Exterior Building Grounding up to Standards: YES: ☐ NO: ☐Lock: Key: ☒ Combination: ☐ Alarm: ☐

What is the Type and Quantity of Transmission Line Feed Through: Type: QTY:

Is Interior Clean: YES: ☐ NO: ☐Any Signs of Rodent Penetration: YES: ☐ NO: ☐Heater Functional: YES: ☐ NO: ☐ Thermostat Setting:Cooling: Power Exhaust: ☐ A/C: ☐ If A/C, Make: Model: Thermostat Setting:Electrical Service: Buried: ☐ Mast Pipe: ☐Electrical Entrance AMPS: Brand: Are All Circuit Breakers Labeled: YES: ☐ NO: ☐

Total Individual Breakers AMPS: (Add each individual breaker used, but not on the main breaker)

List Any Unused Breakers Installed: (QTY &amp; AMP Rating)

List Any Spare Uninstalled Breakers: (QTY &amp; AMP Rating)

Is Interior Building B\Grounding (Does not include equipment) up to Standards: YES: ☐ NO: ☐Is Building & Equipment Grounding Joined: YES: ☐ NO: ☐Generator: YES: ☐ NO: ☐ Make: Model:

Transfer Panel Make: Model:

Fuel Type: Propane: ☐ Diesel: ☐ Tank Location: Buried: ☐ Above Ground: ☐

**Section 7 List Antennas from Top Down**

Antenna Systems							
#	HGT (FT)	MFG	Model	AZM	Freq	Customer	Notes
A	42' 2"	UNISYS Corp	FA10207/3	60	Not listed	FAA	1/2" Coax Direct
B	49' 5"						1st Guy
C	81'						RG11 Coax Coiled (not is use)
D	99' 2"						2nd Guy
E	116' 4"	Not Listed	PRF 950	65	940-960	WGNV	LDF550 7/8
F	118' 4"						OB Lights
G	139' 1"						3rd Guy
H	141' 4"						Station Master Base
I	152'	Not Listed	Station Master	Omni	Not Listed	Unknown	LDF550 W / 3' 1/2" Jumper
J	163'						Station Mater Tip W/ Top Rod
K	199'						4th Guy
L	170-190'						5 Bay FM Antenna RFS 15850J
M	220'						Steel (not taped)
N	224'						Beacon L/R (not taped)
O							
P							
Q							
R							
S							
T							
U							
V							
W							
X							
Y							
Z							

# Strain Gauge Reading

1 <sup>st</sup> Guys	Before:	1. 1125	2. 1100	3. 1100
	After:	1.	2.	3.
2 <sup>nd</sup> Guys	Before:	1. 1300	2. 1500	3. 1200
	After:	1.	2.	3.
3 <sup>rd</sup> Guys	Before:	1. 1200	2. 1000	3. 500
	After:	1.	2.	3.
4 <sup>th</sup> Guys	Before:	1. 1450	2. 1800	3. 1800
	After:	1.	2.	3.
5 <sup>th</sup> Guys	Before:	1.	2.	3.
	After:	1.	2.	3.
6 <sup>th</sup> Guys	Before:	1.	2.	3.
	After:	1.	2.	3.
7 <sup>th</sup> Guys	Before:	1.	2.	3.
	After:	1.	2.	3.
8 <sup>th</sup> Guys	Before:	1.	2.	3.
	After:	1.	2.	3.

## For Torque Arm: Draw a Line Through the Box and Record as Below

2 <sup>nd</sup> Guys	Before:	Left: 1. _____	2. _____	3. _____
	After:	Right: 1. _____	2. _____	3. _____
	Before:	Left: 1. _____	2. _____	3. _____
	After:	Right: 1. _____	2. _____	3. _____

List Below Any Remarks on Previous Sections  
Number Remarks & Identify Sections.

**General Remarks**

Section 8

Check If No Remarks: ☐

Section 1 Tower Steel--Tower could not be fully tape dropped due to 5 bay FM Antenna. Leg size of 2.0"OD 0'-160' Level.

Leg change to 2.5" OD from 160' to 180'. Leg appears to go back to 2.0" for last two sections. Bent diag. 6' NE Face.

Section 2 & 3 Guy wires are 3/8" x 1 x 7 EHS. Guys are rusted-surface to pitting / Preforms surface rust / No ice shields on preforms /

No guy wire / Anchor head grounding. 4th guy at 240 anchor has wire tie in place of cotter pin on turn buckle. No safety "8" 's on anchors. Anchor heads at 240 degrees are buried. Anchor at 0 degrees has tow anchor heads, 4th guy attached to second anchor.

Anchor points are overgrown. Saddle bolts on guys are rusted / pitted on all points. 3rd guy at 240 degrees is tension light.

List Below Any Recommended Repairs  
Number Remarks & Identify Sections.

**Recommended Repairs**

Section 9

Check If No Recommended Repairs: ☐

Section 2 & 3 Recommend clearing anchor points for serviceability and installing ice shields on preforms. Grounding guys w/#27 and 8' ground rod for each anchor. Replace wire tie w/cotter pin @ 240 degree anchor. Install safety "8" 's on all anchors.

Replace saddle bolts on guy wires. Bring 3rd guy up to tension.

List Below Any Work Performed

**Work Performed**

*Section 10*

Complete Tower / Mapping Inspection

List Below Any Materials or Parts Used.

**Materials Used**

*Section 11*

Inspectors Signature: Rudy Stauder

Tech Number: T-4

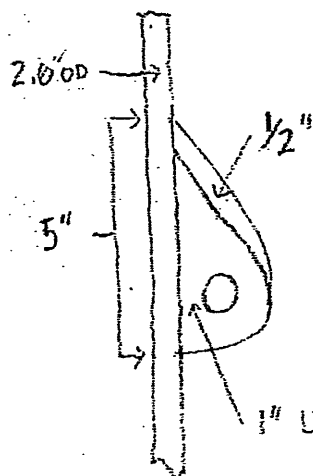
Date: 8/22/03

Reviewed By: Scott Musacchio

Tech Number: M-5

Date: 8/25/03

GUY	ELEVATION	DIAMETER
NO. 1	49' 5"	3/8" 1x7
NO. 2	49' 2"	3/8" 1x7
NO. 3	139' 1"	3/8" 1x7
NO. 4	NOT TAPED	3/8" 1x7



GUY ATTACHMENT POINT

GUY NO. 4

GUY NO. 3

GUY NO. 2

GUY NO. 1



0'-0"

---

TOP OF PED.

"8/5"	"8/6"	"7/8"	"7/8"	"7/8"	"7/8"	"7/8"
"7/8"/"1/4"	"7/8"/"1/5"	"7/8"/"1/4"	"7/8"/"1/4"	"7/8"/"1/4"	"7/8"/"1/4"	"7/8"/"1/2"

NOT  
MEASURED  
IN BAYS

DIAGONAL  
HORIZONTAL  
LEG

**TOWER LAYOUT**

THE  
**Chazen**  
COMPANIES  
Engineers/Surveyors Planners  
Environmental Scientists

**Bedford County Office**  
31 Park Street  
Poughkeepsie, NY 12601  
Phone: (914) 434-3879

**Orange County Office**  
251 South St.  
Newburgh, New York 12550  
Phone: (914) 587-7133

**Ulster County Office**  
31 Currier Avenue  
201 New York 12421  
Phone: (914) 533-8000

**Rock County Office**  
110 Main Street  
Catskill, New York 12414  
Phone: (914) 533-2800

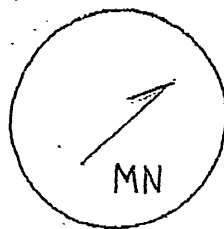
ALL RIGHTS RESERVED. COPY OR REPRODUCTION OF THE PLAN OR ANY PORTION THEREOF IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF THE DESIGN INVENTOR. SIGNATURE OF ARCHITECT

ALTERATION OF THIS DRAWING, EXCEPT BY A LICENSED P.E. IS ILLEGAL. ANY ALTERATION BY A P.E. MUST BE INDICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF ALTERATION.

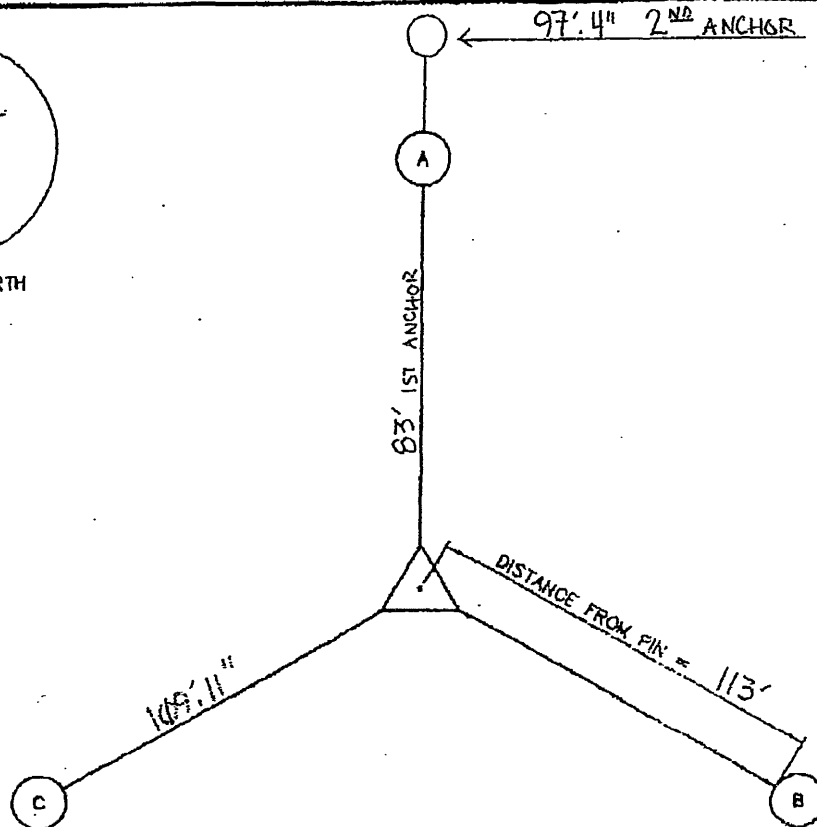
100/200 2 01/11

CHAZEN COMPANIES

2204 397 338 17:57 3092.02'00Y



IDENTIFY NORTH



## NOTE:

IF THERE IS MORE THAN ONE SET OF GUY ANCHORS, PULL TAPE TO EACH ONE.  
 SKETCH AND LABEL ALL TORQUE ARMS AND/OR STAR MOUNTS WITH DIMENSIONS AND  
 MEMBER SIZES.

NO TORQUE ARMS / STAR MOUNTS ON TOWER GUY ATTACH  
 TO PIN / WELDED TO TOWER

THE  
**Chazen**  
 COMPANIES

Engineers/Surveyors  
 Planners  
 Environmental Scientists

Manhasset County Office:  
 Manhasset Rd #2 Box 3479  
 Manhasset, NY 11902  
 Phone: (845) 461-3800  
 Orange County Office:  
 283 Maple-TX  
 Huntington, New York 12502  
 Phone: (845) 647-1133  
 Capital District Office:  
 30 Butler Avenue  
 Troy, New York 12182  
 Phone: (518) 838-9000  
 North Country Office:  
 118 Glen Street  
 Glens Falls, New York 12001  
 Phone: (518) 512-2200

## GUY CABLE LAYOUT

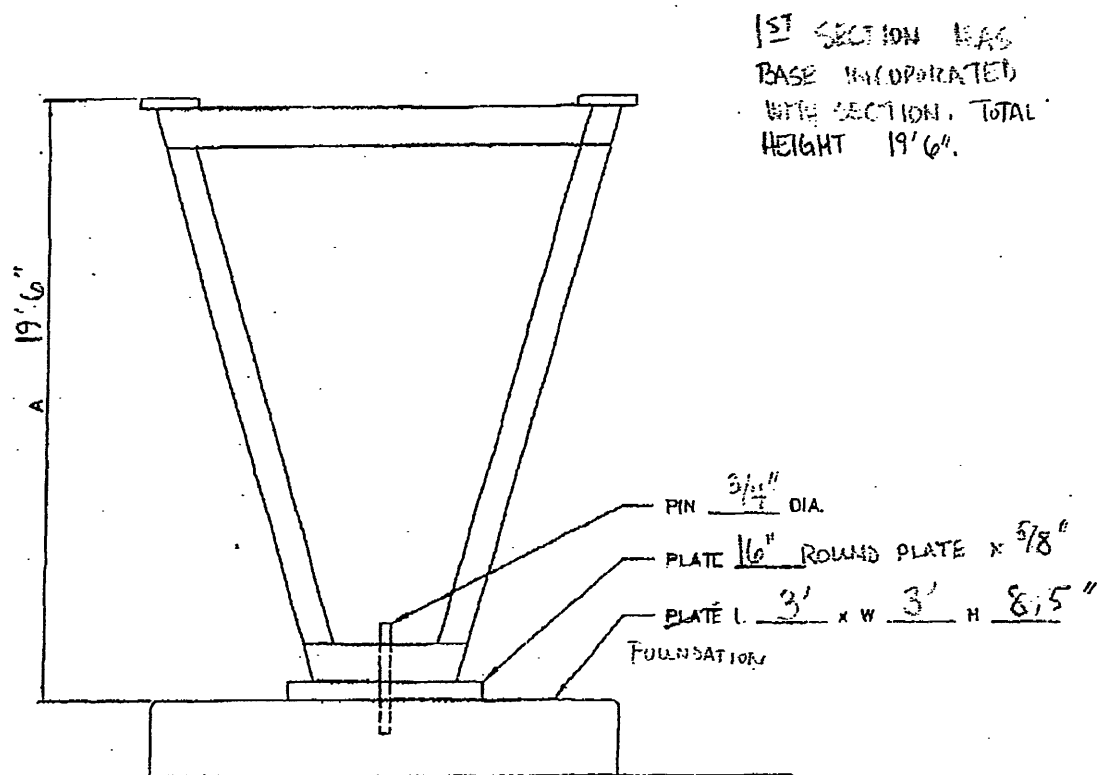
Sheet No.

S2

date

08-19-03

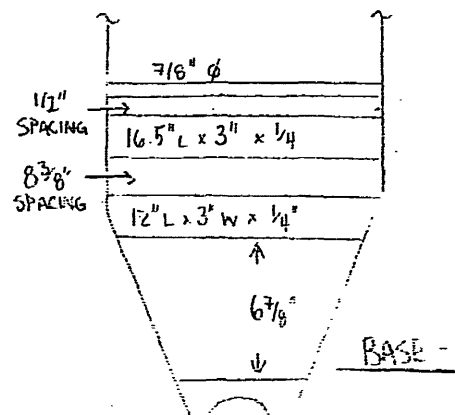
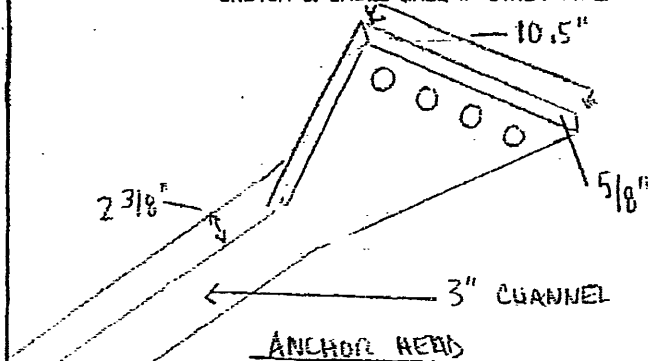
project no.



## NOTE:

SKETCH HORIZONTAL AND/OR DIAGONALS AND  
NOTE MEMBER SIZES.

SKETCH & LABEL BASE IF OTHER TYPE.



THE  
**Chazen**  
COMPANIES

Engineers/Surveyors  
Planners  
Environmental Scientists

**Manhasset County Office:**  
Manhasset Rd PO Box 5470  
Manhasset, NY 11953  
Phone: (845) 464-3000

**Greenvale County Office:**  
283 Route 17K  
Hempstead, New York 11550  
Phone: (845) 847-1133

**Capital District Office:**  
20 Cortly Avenue  
Troy, New York 12182  
Phone: (518) 228-8050

**North Country Office:**  
110 Glen Street  
Glens Falls, New York 12091  
Phone: (518) 812-2250

## TOWER BASE CONSTRUCTION

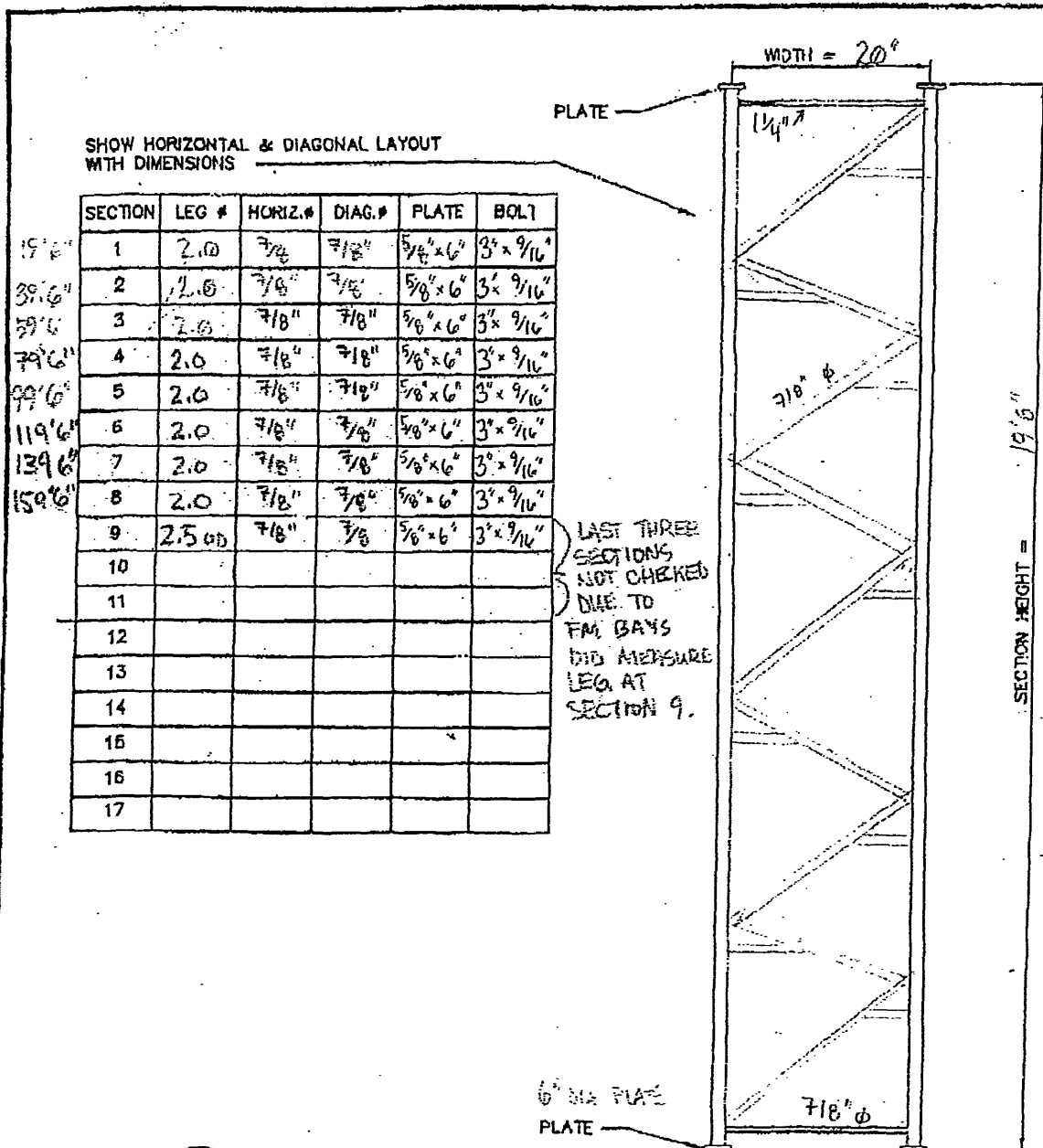
sheet no.

S3

date

project no.





1  
S4

## TOWER SECTION CONSTRUCTION

SCALE: NOT TO SCALE

THE  
**Chazen**  
COMPANIES

Engineers/Surveyors  
Planners  
Environmental Scientists

Sullivan County Office:  
Hornbush Rd PO Box 5478  
Poughkeepsie, NY 12603  
Phone: (845) 464-3980

Orange County Office:  
283 Route 17N  
Hempburgh, New York 12540  
Phone: (845) 857-1133

Capital District Office:  
20 Surley Avenue  
Troy, New York 12180  
Phone: (518) 238-6040

North Country Office:  
110 Oak Street  
Glens Falls, New York 12033  
Phone: (518) 832-7065

## TOWER SECTION CONSTRUCTION

sheet no.

S4

date

08/19/03

project no.

## APPENDIX B: Model Results (Prior to Retrofit)

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page 1 of 18
	Project	10381.00	Date 09:46:29 09/10/03
	Client	Cellular One	Designed by kellyp

## Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice+Guy
3	Dead+Wind 90 deg - No Ice+Guy
4	Dead+Wind 180 deg - No Ice+Guy
5	Dead+Ice+Temp+Guy
6	Dead+Wind 0 deg+Ice+Temp+Guy
7	Dead+Wind 90 deg+Ice+Temp+Guy
8	Dead+Wind 180 deg+Ice+Temp+Guy
9	Dead+Wind 0 deg - Service+Guy
10	Dead+Wind 90 deg - Service+Guy
11	Dead+Wind 180 deg - Service+Guy

## Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	220 - 200	Leg	Max Tension	4	4559.53	-32.75	22.88
			Max. Compression	6	-6928.25	24.46	-10.47
			Max. Mx	7	4172.76	-216.87	78.51
			Max. My	8	-4747.24	-1.86	-238.63
			Max. Vy	7	-1368.82	-216.85	78.51
			Max. Vx	8	-1409.33	-1.86	-238.63
		Diagonal	Max Tension	3	803.03	0.00	0.00
			Max. Compression	2	-783.72	0.00	0.00
			Max. Mx	6	557.69	1.61	0.00
			Max. My	6	56.97	0.00	-0.06
			Max. Vy	6	-2.48	0.00	0.00
			Max. Vx	6	0.10	0.00	0.00
		Top Girt	Max Tension	2	182.90	0.00	0.00
			Max. Compression	4	-188.00	0.00	0.00
			Max. Mx	5	-0.20	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	6	2256.81	0.00	0.00
			Max. Compression	4	-54.78	0.00	0.00
			Max. Mx	5	354.92	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Mid Girt	Max Tension	6	19.50	0.00	0.00
			Max. Compression	7	-19.55	0.00	0.00
			Max. Mx	5	0.52	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Guy A	Bottom Tension	8	10197.07		
			Top Tension	8	10353.87		
			Top Cable Vert	8	9380.43		
			Top Cable Norm	8	4382.94		
			Top Cable Tan	8	6.10		
			Bot Cable Vert	8	-9047.79		
			Bot Cable Norm	8	4702.94		
			Bot Cable Tan	8	6.10		
		Guy B	Bottom Tension	6	8292.03		
			Top Tension	6	8445.74		
			Top Cable Vert	6	7408.56		
			Top Cable Norm	6	4054.60		
			Top Cable Tan	6	63.98		
			Bot Cable Vert	6	-7130.25		

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	2 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T2	200 - 180	Guy C	Bot Cable Norm	6	4221.15		
			Bot Cable Tan	6	314.80		
			Bottom Tension	7	9885.87		
			Top Tension	7	10041.14		
			Top Cable Vert	7	8868.70		
			Top Cable Norm	7	4708.52		
			Top Cable Tan	7	20.18		
			Bot Cable Vert	7	-8536.38		
		Leg	Bot Cable Norm	7	4981.01		
			Bot Cable Tan	7	224.14		
			Max Tension	2	15500.02	-30.12	35.72
			Max. Compression	8	-27246.47	-44.07	110.18
			Max. Mx	6	-5412.27	-126.13	-59.24
			Max. My	8	-6172.73	-27.84	113.11
			Max. Vy	3	-484.71	-29.35	18.48
			Max. Vx	2	567.44	47.57	54.39
		Diagonal	Max Tension	7	2080.13	0.00	0.00
			Max. Compression	7	-2261.45	0.00	0.00
			Max. Mx	6	-1803.25	1.61	0.00
			Max. My	6	429.55	0.00	-0.06
			Max. Vy	6	-2.49	0.00	0.00
			Max. Vx	6	0.10	0.00	0.00
		Top Girt	Max Tension	7	1098.47	0.00	0.00
			Max. Compression	4	-548.98	0.00	0.00
			Max. Mx	5	91.09	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	2	527.23	0.00	0.00
			Max. Compression	3	-508.35	0.00	0.00
			Max. Mx	5	-3.27	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Mid Girt	Max Tension	6	103.72	0.00	0.00
			Max. Compression	4	-43.16	0.00	0.00
			Max. Mx	5	17.57	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
T3	180 - 160	Leg	Max Tension	2	20132.96	-76.34	-68.59
			Max. Compression	8	-32651.04	-127.49	21.12
			Max. Mx	7	-20724.93	245.60	-48.71
			Max. My	8	-23689.04	30.41	275.83
			Max. Vy	7	559.48	67.30	12.92
			Max. Vx	6	-702.41	-24.95	-75.54
		Diagonal	Max Tension	4	2163.00	0.00	0.00
			Max. Compression	6	-2387.98	0.00	0.00
			Max. Mx	6	1027.06	1.60	0.00
			Max. My	6	444.22	0.00	-0.06
			Max. Vy	6	-2.49	0.00	0.00
			Max. Vx	6	0.10	0.00	0.00
		Top Girt	Max Tension	3	567.92	0.00	0.00
			Max. Compression	2	-552.22	0.00	0.00
			Max. Mx	5	20.00	2.52	0.00
			Max. Vy	5	-6.04	0.00	0.00
		Bottom Girt	Max Tension	6	908.89	0.00	0.00
			Max. Compression	4	-825.90	0.00	0.00
			Max. Mx	5	-17.67	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Mid Girt	Max Tension	6	230.72	0.00	0.00
			Max. Compression	4	-126.09	0.00	0.00
			Max. Mx	5	30.70	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
T4	160 - 140	Leg	Max Tension	4	10199.63	-12.27	221.23
			Max. Compression	6	-30019.42	-30.02	101.00
			Max. Mx	7	5716.09	267.30	-50.22

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page 3 of 18
	Project	10381.00	Date 09:46:29 09/10/03
	Client	Cellular One	Designed by kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T5	140 - 120	Diagonal	Max. My	8	6628.52	-35.09	258.95
			Max. Vy	7	1219.57	-37.40	-1.60
			Max. Vx	8	1252.42	-5.22	-53.98
			Max Tension	8	3064.41	0.00	0.00
			Max. Compression	6	-3306.99	0.00	0.00
			Max. Mx	6	1881.98	1.60	0.00
		Top Girt	Max. My	6	373.40	0.00	-0.06
			Max. Vy	6	-2.50	0.00	0.00
			Max. Vx	6	-0.10	0.00	0.00
			Max Tension	8	840.23	0.00	0.00
			Max. Compression	6	-846.49	0.00	0.00
			Max. Mx	5	42.42	1.83	0.00
		Bottom Girt	Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	1575.92	0.00	0.00
			Max. Compression	8	-1342.14	0.00	0.00
			Max. Mx	5	68.05	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	8	90.50	0.00	0.00
		Mid Girt	Max. Compression	3	-3.99	0.00	0.00
			Max. Mx	5	35.06	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	4	10196.88	-1.49	-54.58
			Max. Compression	6	-35426.64	-24.51	91.94
			Max. Mx	7	5710.00	-342.53	47.02
		Diagonal	Max. My	6	-30022.62	-55.57	398.04
			Max. Vy	7	1221.31	-342.53	47.02
			Max. Vx	8	1254.58	24.64	-367.47
			Max Tension	7	968.34	0.00	0.00
			Max. Compression	7	-987.40	0.00	0.00
			Max. Mx	7	-280.76	1.60	0.00
		Top Girt	Max. My	6	310.29	0.00	-0.06
			Max. Vy	7	-2.49	0.00	0.00
			Max. Vx	6	0.09	0.00	0.00
			Max Tension	6	2874.23	0.00	0.00
			Max. Compression	4	-96.93	0.00	0.00
			Max. Mx	5	481.68	1.83	0.00
		Bottom Girt	Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	362.75	0.00	0.00
			Max. Compression	7	-356.63	0.00	0.00
			Max. Mx	5	27.51	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	7	99.38	0.00	0.00
		Mid Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	34.37	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Guy A	Bottom Tension	8	9076.01		
			Top Tension	8	9186.58		
			Top Cable Vert	8	7957.42		
			Top Cable Norm	8	4590.51		
			Top Cable Tan	8	3.84		
			Bot Cable Vert	8	-7718.47		
		Guy B	Bot Cable Norm	8	4774.84		
			Bot Cable Tan	8	3.84		
			Bottom Tension	6	6914.66		
			Top Tension	6	7024.01		
			Top Cable Vert	6	5526.92		
			Top Cable Norm	6	4334.26		
			Top Cable Tan	6	63.94		
			Bot Cable Vert	6	-5308.79		
			Bot Cable Norm	6	4426.10		
			Bot Cable Tan	6	197.37		

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	4 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T6	120 - 100	Guy C	Bottom Tension	7	7589.70		
			Top Tension	7	7699.92		
			Top Cable Vert	7	6126.60		
			Top Cable Norm	7	4664.07		
			Top Cable Tan	7	6.65		
			Bot Cable Vert	7	-5871.66		
			Bot Cable Norm	7	4807.40		
			Bot Cable Tan	7	126.48		
		Leg	Max Tension	8	20654.24	-8.20	120.53
			Max. Compression	6	-56662.87	-67.26	157.07
			Max. Mx	7	17647.88	162.04	-36.21
			Max. My	6	-35429.71	-34.71	178.33
			Max. Vy	7	890.93	-60.53	-9.70
			Max. Vx	6	-861.13	-32.36	48.99
		Diagonal	Max Tension	8	2222.91	0.00	0.00
			Max. Compression	6	-2271.95	0.00	0.00
			Max. Mx	7	505.61	1.59	0.00
			Max. My	6	377.76	0.00	-0.05
			Max. Vy	7	-2.48	0.00	0.00
			Max. Vx	6	-0.08	0.00	0.00
		Top Girt	Max Tension	7	416.06	0.00	0.00
			Max. Compression	2	-303.89	0.00	0.00
			Max. Mx	5	4.83	1.83	0.00
		Bottom Girt	Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	1154.75	0.00	0.00
			Max. Compression	8	-937.65	0.00	0.00
		Mid Girt	Max. Mx	5	-40.29	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	8	120.05	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	46.42	1.01	0.00
T7	100 - 80	Leg	Max. Vy	5	-2.41	0.00	0.00
			Max Tension	8	20651.10	-8.95	-85.91
			Max. Compression	6	-56666.08	-85.81	333.30
			Max. Mx	7	17641.74	-283.83	16.74
			Max. My	6	-56666.08	-85.81	333.30
		Diagonal	Max. Vy	7	893.87	-283.83	16.74
			Max. Vx	6	-862.87	2.39	264.54
			Max Tension	4	1490.83	0.00	0.00
			Max. Compression	2	-1508.75	0.00	0.00
			Max. Mx	7	-1393.08	1.58	0.00
		Top Girt	Max. My	6	352.74	0.00	-0.04
			Max. Vy	7	-2.46	0.00	0.00
			Max. Vx	6	-0.06	0.00	0.00
			Max Tension	6	2382.34	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Bottom Girt	Max. Mx	5	795.50	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	339.94	0.00	0.00
			Max. Compression	7	-343.51	0.00	0.00
			Max. Mx	5	39.67	1.01	0.00
		Mid Girt	Max. Vy	5	-2.41	0.00	0.00
			Max Tension	7	143.75	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	54.06	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Guy A	Bottom Tension	8	6958.78		
			Top Tension	8	7038.50		
			Top Cable Vert	8	5478.74		
			Top Cable Norm	8	4418.58		
			Top Cable Tan	8	1.81		

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	5 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft	
T8	80 - 60	Guy B	Bot Cable Vert	8	-5295.72			
			Bot Cable Norm	8	4514.42			
			Bot Cable Tan	8	1.81			
			Bottom Tension	6	4844.38			
			Top Tension	6	4923.66			
			Top Cable Vert	6	3328.48			
			Top Cable Norm	6	3627.40			
			Top Cable Tan	6	75.00			
			Bot Cable Vert	6	-3151.80			
			Bot Cable Norm	6	3676.96			
		Guy C	Bot Cable Tan	6	119.11			
			Bottom Tension	7	6123.66			
			Top Tension	7	6203.27			
			Top Cable Vert	7	4247.12			
			Top Cable Norm	7	4521.29			
			Top Cable Tan	7	21.84			
			Bot Cable Vert	7	-4048.93			
			Bot Cable Norm	7	4593.53			
			Bot Cable Tan	7	69.71			
			Leg	Max Tension	4	2009.27	-61.18	45.04
		Max. Compression		6	-44593.15	-18.17	35.72	
		Max. Mx		7	-38780.89	-116.45	5.32	
		Max. My		6	-42218.86	59.12	116.70	
		Max. Vy		7	-321.24	18.16	-4.39	
		Max. Vx		4	253.82	2.25	-44.55	
		Diagonal		Max Tension	6	785.57	0.00	0.00
				Max. Compression	7	-1009.43	0.00	0.00
				Max. Mx	7	-1003.87	1.57	0.00
				Max. My	6	246.83	0.00	-0.03
				Max. Vy	7	2.45	0.00	0.00
		Top Girt		Max. Vx	6	0.04	0.00	0.00
				Max Tension	7	425.72	0.00	0.00
				Max. Compression	2	-259.71	0.00	0.00
				Max. Mx	5	4.62	1.83	0.00
				Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt		Max Tension	2	350.39	0.00	0.00
				Max. Compression	4	-292.75	0.00	0.00
			Max. Mx	5	43.90	1.01	0.00	
			Max. Vy	5	-2.41	0.00	0.00	
			Mid Girt	Max Tension	6	132.06	0.00	0.00
		Max. Compression		1	0.00	0.00	0.00	
		Max. Mx		5	57.61	1.01	0.00	
		Max. Vy		5	-2.41	0.00	0.00	
		T9		Leg	Max Tension	4	4172.13	-6.87
Max. Compression	6		-43820.49		74.90	138.66		
Max. Mx	7		-32412.88		-153.01	-95.70		
Max. My	6		-34404.76		-82.10	206.21		
Max. Vy	7		-551.80		-95.88	-15.85		
Diagonal	Max. Vx		6	527.40	-82.10	206.21		
	Max Tension		2	1635.14	0.00	0.00		
	Max. Compression		2	-1788.43	0.00	0.00		
	Max. Mx		7	-104.12	1.56	0.00		
	Max. My		6	225.68	0.00	-0.02		
Top Girt	Max. Vy		7	2.43	0.00	0.00		
	Max. Vx		6	0.03	0.00	0.00		
	Max Tension		4	356.08	0.00	0.00		
	Max. Compression		2	-286.67	0.00	0.00		
	Max. Mx		5	1.95	1.83	0.00		
Bottom Girt	Max. Vy		5	-4.38	0.00	0.00		
	Max Tension		6	561.39	0.00	0.00		
	Max. Compression	7	-622.63	0.00	0.00			

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	6 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T10	40 - 20	Mid Girt	Max. Mx	6	299.92	1.01	0.00
			Max. Vy	6	-2.41	0.00	0.00
			Max Tension	8	2143.53	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Guy A	Max. Mx	5	1082.36	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Bottom Tension	8	4324.70		
			Top Tension	8	4364.92		
		Guy B	Top Cable Vert	8	2311.80		
			Top Cable Norm	8	3702.45		
			Top Cable Tan	8	0.41		
			Bot Cable Vert	8	-2202.49		
		Guy C	Bot Cable Norm	8	3721.83		
			Bot Cable Tan	8	0.41		
			Bottom Tension	6	2858.67		
			Top Tension	6	2898.86		
		Leg	Top Cable Vert	6	1235.84		
			Top Cable Norm	6	2621.40		
			Top Cable Tan	6	65.60		
			Bot Cable Vert	6	-1107.79		
		Diagonal	Bot Cable Norm	6	2634.38		
			Bot Cable Tan	6	69.71		
			Bottom Tension	7	3524.75		
			Top Tension	7	3564.98		
		Top Girt	Top Cable Vert	7	1541.29		
			Top Cable Norm	7	3214.48		
			Top Cable Tan	7	24.10		
			Bot Cable Vert	7	-1409.77		
		Bottom Girt	Bot Cable Norm	7	3230.41		
			Bot Cable Tan	7	28.85		
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-34410.79	-6.66	-58.01
		Mid Girt	Max. Mx	7	-10557.08	179.35	19.12
			Max. My	6	-10834.99	-59.34	-131.05
			Max. Vy	7	-550.09	41.94	1.64
			Max. Vx	6	530.44	-44.68	74.48
		Top Girt	Max Tension	6	1467.95	0.00	0.00
			Max. Compression	7	-1654.05	0.00	0.00
			Max. Mx	7	-1648.44	1.55	0.00
			Max. My	8	-279.13	0.00	0.01
		Bottom Girt	Max. Vy	7	-2.42	0.00	0.00
			Max. Vx	8	-0.02	0.00	0.00
			Max Tension	7	714.80	0.00	0.00
			Max. Compression	2	-472.41	0.00	0.00
		Mid Girt	Max. Mx	6	-231.33	1.83	0.00
			Max. Vy	6	-4.38	0.00	0.00
			Max Tension	6	346.21	0.00	0.00
			Max. Compression	7	-273.40	0.00	0.00
		Leg	Max. Mx	5	19.17	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	7	139.43	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
T11	20 - 2.333	Top Girt	Max. Mx	6	107.51	1.01	0.00
			Max. Vy	6	-2.41	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-21583.34	-4.55	-22.86
		Bottom Girt	Max. Mx	7	-19578.53	-769.01	420.40
			Max. My	8	-18349.97	39.63	-826.66
			Max. Vy	7	3536.96	-769.01	420.40
			Max. Vx	6	3969.80	-87.91	166.86
		Diagonal	Max Tension	4	761.11	0.00	0.00



<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	7 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T12	2.333 - 0	Top Girt	Max. Compression	7	-761.36	0.00	0.00
			Max. Mx	8	596.12	1.45	0.00
			Max. My	8	-377.70	0.00	0.01
			Max. Vy	8	-2.42	0.00	0.00
			Max. Vx	8	-0.01	0.00	0.00
			Max Tension	7	374.63	0.00	0.00
		Bottom Girt	Max. Compression	6	-254.58	0.00	0.00
			Max. Mx	5	43.34	2.36	0.00
			Max. Vy	5	-5.65	0.00	0.00
			Max Tension	6	2582.10	0.00	0.00
		Mid Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	8	1989.45	2.36	0.00
			Max. Vy	8	-5.65	0.00	0.00
			Max Tension	6	146.14	0.00	0.00
		Leg	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	8	97.57	1.01	0.00
			Max. Vy	8	-2.41	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-21263.48	39.22	-127.35
			Max. Mx	7	-19670.79	876.18	18.88
			Max. My	4	-13037.63	25.66	-240.36
			Max. Vy	7	3679.41	-119.11	-1.71
			Max. Vx	4	179.83	-95.16	15.40
			Max Tension	7	2348.09	0.00	0.00
		Top Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	2309.78	1.84	0.00
			Max. My	8	2218.41	0.00	0.38
			Max. Vy	6	-4.94	0.00	0.00
			Max. Vx	8	-1.02	0.00	0.00

## Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Mast	Max. Vert	6	57465.09	30.30	80.02
	Max. H <sub>x</sub>	2	45290.23	30.41	113.26
	Max. H <sub>z</sub>	7	56903.18	-158.60	259.61
	Max. M <sub>x</sub>	1	0.00	25.96	-2.76
	Max. M <sub>z</sub>	1	0.00	25.96	-2.76
	Max. Torsion	4	350.97	16.92	-324.26
	Min. Vert	1	25877.82	25.96	-2.76
	Min. H <sub>x</sub>	10	30390.77	-182.88	41.92
	Min. H <sub>z</sub>	4	37216.25	16.92	-324.26
	Min. M <sub>x</sub>	1	0.00	25.96	-2.76
	Min. M <sub>z</sub>	1	0.00	25.96	-2.76
	Min. Torsion	2	-281.25	30.41	113.26
	Max. Vert	4	-1673.15	-1627.40	728.06
	Max. H <sub>x</sub>	4	-1673.15	-1627.40	728.06
Guy C @ 110 ft Elev 0 ft Azimuth 240 deg	Max. H <sub>z</sub>	7	-19866.74	-15477.34	8417.18
	Min. Vert	7	-19866.74	-15477.34	8417.18
	Min. H <sub>x</sub>	7	-19866.74	-15477.34	8417.18
	Min. H <sub>z</sub>	4	-1673.15	-1627.40	728.06
	Max. Vert	3	-575.73	406.15	334.51
	Max. H <sub>x</sub>	3	-575.73	406.15	334.51
Guy B @ 113 ft Elev 0 ft Azimuth 120 deg	Max. H <sub>z</sub>	7	-19866.74	-15477.34	8417.18
	Min. Vert	7	-19866.74	-15477.34	8417.18

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	8 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Guy A @ 97 ft Elev 0 ft Azimuth 0 deg	Max. H <sub>x</sub>	6	-16698.63	12604.02	8086.37
	Max. H <sub>z</sub>	6	-16698.63	12604.02	8086.37
	Min. Vert	6	-16698.63	12604.02	8086.37
	Min. H <sub>x</sub>	3	-575.73	406.15	334.51
	Min. H <sub>z</sub>	3	-575.73	406.15	334.51
	Max. Vert	9	-158.25	-0.04	-53.84
	Max. H <sub>x</sub>	9	-158.25	-0.04	-53.84
	Max. H <sub>z</sub>	9	-158.25	-0.04	-53.84
	Min. Vert	8	-9047.79	-6.10	-4702.94
	Min. H <sub>x</sub>	7	-5222.82	-310.20	-2582.60
Guy A @ 83 ft Elev 0 ft Azimuth 0 deg	Min. H <sub>z</sub>	8	-9047.79	-6.10	-4702.94
	Max. Vert	2	-220.67	-0.08	-130.46
	Max. H <sub>x</sub>	9	-388.50	-0.01	-566.06
	Max. H <sub>z</sub>	2	-220.67	-0.08	-130.46
	Min. Vert	8	-15216.69	-6.05	-13011.10
	Min. H <sub>x</sub>	7	-8253.67	-395.21	-6967.94
	Min. H <sub>z</sub>	8	-15216.69	-6.05	-13011.10

## Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear <sub>x</sub> lb	Shear <sub>z</sub> lb	Overturning Moment, M <sub>x</sub> lb-ft	Overturning Moment, M <sub>z</sub> lb-ft	Torque lb-ft
Dead Only	25877.82	-25.96	2.76	0.00	0.00	2.79
Dead+Wind 0 deg - No Ice+Guy	45290.23	-30.41	-113.26	0.00	0.00	281.25
Dead+Wind 90 deg - No Ice+Guy	43111.88	169.64	-216.55	0.00	0.00	-177.72
Dead+Wind 180 deg - No Ice+Guy	37216.25	-16.92	324.26	0.00	0.00	-350.97
Dead+Ice+Temp+Guy	36179.15	-25.09	-11.57	0.00	0.00	4.77
Dead+Wind 0 deg+Ice+Temp+Guy	57465.09	-30.30	-80.02	0.00	0.00	231.04
Dead+Wind 90 deg+Ice+Temp+Guy	56903.18	158.60	-259.61	0.00	0.00	-171.37
Dead+Wind 180 deg+Ice+Temp+Guy	52992.30	-22.02	277.19	0.00	0.00	-250.49
Dead+Wind 0 deg - Service+Guy	30805.72	-28.61	-176.89	0.00	0.00	195.46
Dead+Wind 90 deg - Service+Guy	30390.77	182.88	-41.92	0.00	0.00	-129.26
Dead+Wind 180 deg - Service+Guy	29104.79	-12.56	209.68	0.00	0.00	-208.31

## Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-14277.72	0.00	-0.12	14277.72	1.15	0.008%
2	2.84	-14324.00	-13939.51	-2.80	14323.91	13936.71	0.014%
3	13068.65	-14276.39	-2.07	-13066.06	14276.30	3.87	0.016%

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	9 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
4	-2.84	-14231.44	12872.90	5.62	14231.43	-12872.88	0.014%
5	0.00	-22136.42	0.00	0.68	22136.42	0.44	0.004%
6	7.81	-22263.71	-15543.39	-7.77	22263.56	15539.91	0.013%
7	15290.85	-22132.76	-5.68	-15287.76	22132.63	7.94	0.014%
8	-7.81	-22009.14	15453.15	11.20	22009.14	-15453.13	0.013%
9	1.45	-14301.34	-7111.99	-1.43	14301.31	7110.20	0.011%
10	6667.68	-14277.04	-1.05	-6666.47	14277.02	1.93	0.009%
11	-1.45	-14254.11	6567.80	2.67	14254.10	-6567.66	0.008%

## Non-Linear Convergence Results

Load Combination.	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	12	0.00000001	0.00000001
2	Yes	49	0.00000001	0.00013169
3	Yes	52	0.00011377	0.00013946
4	Yes	60	0.00014595	0.00010761
5	Yes	19	0.00000001	0.00000001
6	Yes	51	0.00010258	0.00013111
7	Yes	55	0.00011934	0.00014318
8	Yes	53	0.00014341	0.00011488
9	Yes	43	0.00014181	0.00012283
10	Yes	46	0.00013108	0.00010481
11	Yes	33	0.00013917	0.00000001

## Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt deg	Twist deg
T1	220 - 200	17.426	9	0.4753	0.8314
T2	200 - 180	15.456	9	0.4634	0.8852
T3	180 - 160	13.454	9	0.5367	0.8059
T4	160 - 140	11.001	9	0.6338	0.7035
T5	140 - 120	8.207	9	0.6555	0.6226
T6	120 - 100	5.595	9	0.5855	0.5648
T7	100 - 80	3.382	9	0.4346	0.4826
T8	80 - 60	1.953	9	0.2739	0.4000
T9	60 - 40	1.044	11	0.1742	0.3193
T10	40 - 20	0.628	11	0.0769	0.2400
T11	20 - 2.333	0.347	11	0.0736	0.1667
T12	2.333 - 0	0.043	11	0.0876	0.1004

## Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt deg	Twist deg	Radius of Curvature ft
220.00	RMU (Remote Units)	9	17.426	0.4753	0.8314	193237
210.00	6810 Circular Polarized FM 5-bay	9	16.435	0.4618	0.8710	96619
205.00	6810 Circular Polarized FM 5-bay	9	15.943	0.4598	0.8828	64412

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	10 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	deg	deg	ft
200.25	Guy	9	15.481	0.4630	0.8854	68628
200.00	6810 Circular Polarized FM 5-bay	9	15.456	0.4634	0.8852	72150
195.00	6810 Circular Polarized FM 5-bay	9	14.973	0.4739	0.8760	63328
190.00	6810 Circular Polarized FM 5-bay	9	14.486	0.4906	0.8575	19567
175.00	(3) DB844H90E-XY w/Pipe Mount	9	12.890	0.5631	0.7790	8673
173.00	(3) DB844H90E-XY w/Pipe Mount	9	12.655	0.5738	0.7684	8908
171.00	(3) DB844H90E-XY w/Pipe Mount	9	12.414	0.5843	0.7580	9156
163.00	PD220	9	11.401	0.6224	0.7179	10341
157.50	PD220	9	10.660	0.6417	0.6919	13894
152.00	PD220	9	9.894	0.6538	0.6676	30899
146.50	PD220	9	9.117	0.6587	0.6454	30130
141.00	PD220	9	8.345	0.6566	0.6258	13687
139.75	Guy	9	8.172	0.6552	0.6218	12898
118.00	Flash Beacon Lighting	9	5.349	0.5734	0.5578	13756
117.50	PR-950	9	5.288	0.5702	0.5560	13168
116.00	PR-950	9	5.107	0.5604	0.5504	11525
114.50	PR-950	9	4.928	0.5502	0.5446	10169
99.75	Guy	9	3.360	0.4324	0.4815	5028
50.00	Guy	11	0.807	0.1194	0.2782	12686

## Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		deg	deg
T1	220 - 200	54.264	6	1.7121	1.4232
T2	200 - 180	47.114	6	1.6878	1.5286
T3	180 - 160	39.901	6	1.8271	1.3841
T4	160 - 140	31.857	6	1.9961	1.1946
T5	140 - 120	23.354	6	1.9562	1.0472
T6	120 - 100	15.663	6	1.7016	0.9529
T7	100 - 80	9.658	2	1.2860	0.8106
T8	80 - 60	5.866	2	0.8377	0.6709
T9	60 - 40	3.224	2	0.5105	0.5341
T10	40 - 20	1.654	2	0.2622	0.4013
T11	20 - 2.333	0.793	2	0.1880	0.2777
T12	2.333 - 0	0.095	2	0.1933	0.1658

## Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	deg	deg	ft
220.00	RMU (Remote Units)	6	54.264	1.7121	1.4232	100459
210.00	6810 Circular Polarized FM 5-bay	6	50.677	1.5855	1.4996	50229
205.00	6810 Circular Polarized FM 5-bay	6	48.891	1.6813	1.5230	33486
200.25	Guy	6	47.202	1.6872	1.5288	35694
200.00	6810 Circular Polarized FM 5-bay	6	47.114	1.6878	1.5286	37547
195.00	6810 Circular Polarized FM 5-bay	6	45.344	1.7078	1.5125	24729
190.00	6810 Circular Polarized FM 5-bay	6	43.566	1.7395	1.4789	9044
175.00	(3) DB844H90E-XY w/Pipe Mount	6	37.978	1.8770	1.3344	4341
173.00	(3) DB844H90E-XY w/Pipe Mount	6	37.191	1.8968	1.3149	4500
171.00	(3) DB844H90E-XY w/Pipe Mount	6	36.394	1.9160	1.2956	4672
163.00	PD220	6	33.118	1.9802	1.2212	5534

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	11 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	deg	deg	ft
157.50	PD220	6	30.794	2.0048	1.1730	7924
152.00	PD220	6	28.437	2.0094	1.1280	27815
146.50	PD220	6	26.081	1.9953	1.0875	8924
141.00	PD220	6	23.767	1.9637	1.0528	4812
139.75	Guy	6	23.251	1.9542	1.0459	4528
118.00	Flash Beacon Lighting	6	14.953	1.6659	0.9411	4017
117.50	PR-950	6	14.777	1.6568	0.9380	3920
116.00	PR-950	6	14.255	1.6286	0.9284	3629
114.50	PR-950	6	13.740	1.5997	0.9183	3362
99.75	Guy	2	9.601	1.2802	0.8087	2044
50.00	Guy	2	2.316	0.3861	0.4711	3867

### Guy Design Data:

Section No.	Elevation	Size	Initial Tension	Breaking Load	Actual T	Allowable T <sub>a</sub>	Required S.F.	Actual S.F.
	ft		lb	lb	lb	lb		
T1	200.25 (A) (471)	3/8 EHS	1540.00	15399.96	10353.90	7700.00	2.000	1.487 ✗
	200.25 (B) (470)	3/8 EHS	1540.00	15399.96	8445.74	7700.00	2.000	1.823 ✗
	200.25 (C) (469)	3/8 EHS	1540.00	15399.96	10041.10	7700.00	2.000	1.534 ✗
T5	139.75 (A) (474)	3/8 EHS	1540.00	15399.96	9186.58	7700.00	2.000	1.676 ✗
	139.75 (B) (473)	3/8 EHS	1540.00	15399.96	7024.01	7700.00	2.000	2.192 ✓
	139.75 (C) (472)	3/8 EHS	492.80	15399.96	7699.92	7700.00	2.000	2.000 ✓
T7	99.75 (A) (477)	3/8 EHS	1540.00	15399.96	7038.50	7700.00	2.000	2.188 ✓
	99.75 (B) (476)	3/8 EHS	1540.00	15399.96	4923.66	7700.00	2.000	3.128 ✓
	99.75 (C) (475)	3/8 EHS	1540.00	15399.96	6203.27	7700.00	2.000	2.483 ✓
T9	50.00 (A) (480)	3/8 EHS	1540.00	15399.96	4364.92	7700.00	2.000	3.528 ✓
	50.00 (B) (479)	3/8 EHS	1540.00	15399.96	2898.86	7700.00	2.000	5.312 ✓
	50.00 (C) (478)	3/8 EHS	1540.00	15399.96	3564.98	7700.00	2.000	4.320 ✓

### Compression Checks

### Leg Design Data (Compression):

Section No.	Elevation	Size	L	L <sub>v</sub>	KI/r	Mast Stability Index	F <sub>a</sub>	A	Actual P	Allow. P <sub>a</sub>	Ratio P/P <sub>a</sub>
	ft		ft	ft			ksi	in <sup>2</sup>	lb	lb	
T1	220 - 200	2	20.00	1.98	94.8 K=2.00	1.00	13.625	3.1416	-6928.25	42805.50	0.162 ✓
T2	200 - 180	2	20.00	1.98	94.8 K=2.00	1.00	13.625	3.1416	-27246.50	42805.50	0.637 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	12 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	KI/r	Mast Stability Index	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T3	180 - 160	2 1/2	20.00	1.95	74.9 K=2.00	0.99	15.707	4.9087	-32651.00	77100.00	0.423 ✓
T4	160 - 140	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-30019.40	43265.70	0.694 ✓
T5	140 - 120	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-35426.60	43265.70	0.819 ✓
T6	120 - 100	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-56662.90	43265.70	1.310 ✓
T7	100 - 80	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-56666.10	43265.70	1.310 ✓
T8	80 - 60	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-44593.10	43265.70	1.031 ✓
T9	60 - 40	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-43820.50	43265.70	1.013 ✓
T10	40 - 20	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-34410.80	43265.70	0.795 ✓
T11	20 - 2.333	2	17.67	1.72	82.4 K=2.00	1.00	15.086	3.1416	-21583.30	47393.60	0.455 ✓
T12	2.333 - 0	2	2.52	2.25	108.2 K=2.00	1.00	11.915	3.1416	-21263.50	37431.40	0.568 ✓

### Diagonal Design Data (Compression):

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	KI/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	7/8	2.59	2.33	89.4 K=0.70	14.275	0.6013	-783.72	8583.93	0.091 ✓
T2	200 - 180	7/8	2.59	2.33	89.4 K=0.70	14.275	0.6013	-2261.45	8583.93	0.263 ✓
T3	180 - 160	7/8	2.57	2.25	86.3 K=0.70	14.641	0.6013	-2387.98	8803.68	0.271 ✓
T4	160 - 140	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-3306.99	8630.69	0.383 ✓
T5	140 - 120	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-987.40	8630.69	0.114 ✓
T6	120 - 100	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-2271.95	8630.69	0.263 ✓
T7	100 - 80	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1508.75	8630.69	0.175 ✓
T8	80 - 60	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1009.43	8630.69	0.117 ✓
T9	60 - 40	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1788.43	8630.69	0.207 ✓
T10	40 - 20	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1654.05	8630.69	0.192 ✓
T11	20 - 2.333	7/8	2.39	2.16	84.3 K=0.71	14.867	0.6013	-761.36	8939.89	0.085 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	13 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation	Size	L	L <sub>w</sub>	Kl/r	F <sub>a</sub>	A	Actual P	Allow. P <sub>a</sub>	Ratio P
	ft		ft	ft		ksi	in <sup>2</sup>	lb	lb	P <sub>a</sub>

### Top Girt Design Data (Compression):

Section No.	Elevation	Size	L	L <sub>w</sub>	Kl/r	F <sub>a</sub>	A	Actual P	Allow. P <sub>a</sub>	Ratio P
	ft		ft	ft		ksi	in <sup>2</sup>	lb	lb	P <sub>a</sub>
T1	220 - 200	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-188.00	21654.80	0.009 ✓
T2	200 - 180	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-548.98	21654.80	0.025 ✓
T3	180 - 160	1 1/2	1.67	1.46	46.8 K=1.00	18.631	1.7672	-552.22	32922.90	0.017 ✓
T4	160 - 140	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-846.49	21654.80	0.039 ✓
T5	140 - 120	1 1/4	1.67	1.50	57.7 K=1.00	17.645	1.2272	-96.93	21654.80	0.004 ✓
T6	120 - 100	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-303.89	21654.80	0.014 ✓
T8	80 - 60	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-259.71	21654.80	0.012 ✓
T9	60 - 40	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-286.67	21654.80	0.013 ✓
T10	40 - 20	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-472.41	21654.80	0.022 ✓
T11	20 - 2.333	3x1/2	1.67	1.50	125.0 K=1.00	9.557	1.5000	-254.58	14335.10	0.018 ✓

### Bottom Girt Design Data (Compression):

Section No.	Elevation	Size	L	L <sub>w</sub>	Kl/r	F <sub>a</sub>	A	Actual P	Allow. P <sub>a</sub>	Ratio P
	ft		ft	ft		ksi	in <sup>2</sup>	lb	lb	P <sub>a</sub>
T1	220 - 200	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-54.78	9170.23	0.006 ✓
T2	200 - 180	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-508.35	9170.23	0.055 ✓
T3	180 - 160	7/8	1.67	1.46	80.1 K=1.00	15.347	0.6013	-825.90	9228.57	0.089 ✓
T4	160 - 140	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-1342.14	9170.23	0.146 ✓
T5	140 - 120	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-356.63	9170.23	0.039 ✓
T6	120 - 100	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-937.65	9170.23	0.102 ✓
T7	100 - 80	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-343.51	9170.23	0.037 ✓
T8	80 - 60	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-292.74	9170.23	0.032 ✓
T9	60 - 40	7/8	1.67	1.50	80.9	15.250	0.6013	-622.63	9170.23	0.068 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	14 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>e</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T10	40 - 20	7/8	1.67	1.50	K=0.98 80.9 K=0.98	15.250	0.6013	-273.40	9170.23	0.030 ✓ ✓

### Mid Girt Design Data (Compression):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>e</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-19.55	9170.23	0.002 ✓
T2	200 - 180	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-43.16	9170.23	0.005 ✓
T3	180 - 160	7/8	1.67	1.46	80.1 K=1.00	15.347	0.6013	-126.09	9228.57	0.014 ✓
T4	160 - 140	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-3.99	9170.23	0.000 ✓

### Tension Checks

### Leg Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>e</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	2	20.00	1.98	47.4	21.600	3.1416	4559.53	67858.40	0.067 ✓
T2	200 - 180	2	20.00	1.98	47.4	21.600	3.1416	15500.00	67858.40	0.228 ✓
T3	180 - 160	2 1/2	20.00	1.95	37.4	21.600	4.9087	20133.00	106029.00	0.190 ✓
T4	160 - 140	2	20.00	1.95	46.8	21.600	3.1416	10199.60	67858.40	0.150 ✓
T5	140 - 120	2	20.00	1.95	46.8	21.600	3.1416	10196.90	67858.40	0.150 ✓
T6	120 - 100	2	20.00	1.95	46.8	21.600	3.1416	20654.20	67858.40	0.304 ✓
T7	100 - 80	2	20.00	1.95	46.8	21.600	3.1416	20651.10	67858.40	0.304 ✓
T8	80 - 60	2	20.00	1.95	46.8	21.600	3.1416	2009.27	67858.40	0.030 ✓
T9	60 - 40	2	20.00	1.95	46.8	21.600	3.1416	4172.13	67858.40	0.061 ✓

### Diagonal Design Data (Tension):



<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	15 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	KI/r	F <sub>e</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	7/8	2.59	2.33	127.7	21.600	0.6013	803.03	12988.50	0.062 ✓
T2	200 - 180	7/8	2.59	2.33	127.7	21.600	0.6013	2080.13	12988.50	0.160 ✓
T3	180 - 160	7/8	2.57	2.25	123.3	21.600	0.6013	2163.00	12988.50	0.167 ✓
T4	160 - 140	7/8	2.57	2.31	126.8	21.600	0.6013	3064.41	12988.50	0.236 ✓
T5	140 - 120	7/8	2.57	2.31	126.8	21.600	0.6013	968.34	12988.50	0.075 ✓
T6	120 - 100	7/8	2.57	2.31	126.8	21.600	0.6013	2222.91	12988.50	0.171 ✓
T7	100 - 80	7/8	2.57	2.31	126.8	21.600	0.6013	1490.83	12988.50	0.115 ✓
T8	80 - 60	7/8	2.57	2.31	126.8	21.600	0.6013	785.57	12988.50	0.060 ✓
T9	60 - 40	7/8	2.57	2.31	126.8	21.600	0.6013	1635.14	12988.50	0.126 ✓
T10	40 - 20	7/8	2.57	2.31	126.8	21.600	0.6013	1467.95	12988.50	0.113 ✓
T11	20 - 2.333	7/8	2.39	2.16	118.3	21.600	0.6013	761.11	12988.50	0.059 ✓

### Top Girt Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	KI/r	F <sub>e</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	1 1/4	1.67	1.50	57.7	21.600	1.2272	182.90	26507.20	0.007 ✓
T2	200 - 180	1 1/4	1.67	1.50	57.7	21.600	1.2272	1098.47	26507.20	0.041 ✓
T3	180 - 160	1 1/2	1.67	1.46	46.8	21.600	1.7672	567.91	38170.40	0.015 ✓
T4	160 - 140	1 1/4	1.67	1.50	57.7	21.600	1.2272	840.23	26507.20	0.032 ✓
T5	140 - 120	1 1/4	1.67	1.50	57.7	21.600	1.2272	2874.23	26507.20	0.108 ✓
T6	120 - 100	1 1/4	1.67	1.50	57.7	21.600	1.2272	416.06	26507.20	0.016 ✓
T7	100 - 80	1 1/4	1.67	1.50	57.7	21.600	1.2272	2382.34	26507.20	0.090 ✓
T8	80 - 60	1 1/4	1.67	1.50	57.7	21.600	1.2272	425.72	26507.20	0.016 ✓
T9	60 - 40	1 1/4	1.67	1.50	57.7	21.600	1.2272	356.08	26507.20	0.013 ✓
T10	40 - 20	1 1/4	1.67	1.50	57.7	21.600	1.2272	714.80	26507.20	0.027 ✓
T11	20 - 2.333	3x1/2	1.67	1.50	125.0	21.600	1.5000	374.63	32400.00	0.012 ✓
T12	2.333 - 0	3x1/2	1.49	1.32	110.1	21.600	1.5000	2348.09	32400.00	0.072 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	16 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
✓										

### Bottom Girt Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T1	220 - 200	7/8	1.67	1.50	82.5	21.600	0.6013	2256.81	12988.50	0.174
T2	200 - 180	7/8	1.67	1.50	82.5	21.600	0.6013	527.23	12988.50	0.041
T3	180 - 160	7/8	1.67	1.46	80.2	21.600	0.6013	908.89	12988.50	0.070
T4	160 - 140	7/8	1.67	1.50	82.5	21.600	0.6013	1575.92	12988.50	0.121
T5	140 - 120	7/8	1.67	1.50	82.5	21.600	0.6013	362.75	12988.50	0.028
T6	120 - 100	7/8	1.67	1.50	82.5	21.600	0.6013	1154.75	12988.50	0.089
T7	100 - 80	7/8	1.67	1.50	82.5	21.600	0.6013	339.94	12988.50	0.026
T8	80 - 60	7/8	1.67	1.50	82.5	21.600	0.6013	350.39	12988.50	0.027
T9	60 - 40	7/8	1.67	1.50	82.5	21.600	0.6013	561.39	12988.50	0.043
T10	40 - 20	7/8	1.67	1.50	82.5	21.600	0.6013	346.21	12988.50	0.027
T11	20 - 2.333	3x1/2	1.67	1.50	125.0	21.600	1.5000	2582.10	32400.00	0.080

### Mid Girt Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T1	220 - 200	7/8	1.67	1.50	82.5	21.600	0.6013	19.50	12988.50	0.002
T2	200 - 180	7/8	1.67	1.50	82.5	21.600	0.6013	103.72	12988.50	0.008
T3	180 - 160	7/8	1.67	1.46	80.2	21.600	0.6013	230.72	12988.50	0.018
T4	160 - 140	7/8	1.67	1.50	82.5	21.600	0.6013	90.50	12988.50	0.007
T5	140 - 120	7/8	1.67	1.50	82.5	21.600	0.6013	99.38	12988.50	0.008
T6	120 - 100	7/8	1.67	1.50	82.5	21.600	0.6013	120.05	12988.50	0.009
T7	100 - 80	7/8	1.67	1.50	82.5	21.600	0.6013	143.75	12988.50	0.011

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	17 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>r</sub> ft	KU/r	F <sub>e</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T8	80 - 60	7/8	1.67	1.50	82.5	21.600	0.6013	132.06	12988.50	0.010 ✓
T9	60 - 40	7/8	1.67	1.50	82.5	21.600	0.6013	2143.53	12988.50	0.165 ✓
T10	40 - 20	7/8	1.67	1.50	82.5	21.600	0.6013	139.43	12988.50	0.011 ✓
T11	20 - 2.333	7/8	1.67	1.50	82.5	21.600	0.6013	146.14	12988.50	0.011 ✓

## Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P <sub>allow</sub> lb	% Capacity	Pass Fail
T1	220 - 200	Leg	2	3	-6928.25	57059.73	12.1	Pass
		Diagonal	7/8	24	-783.72	11442.38	6.8	Pass
		Top Girt	1 1/4	4	-188.00	28865.85	0.7	Pass
		Bottom Girt	7/8	7	2256.81	17313.67	13.0	Pass
		Mid Girt	7/8	11	-19.55	12223.92	0.2	Pass
		Guy A@200.25	3/8	471	10353.90	7700.00	134.5	Fail X
		Guy B@200.25	3/8	470	8445.74	7700.00	109.7	Fail X
		Guy C@200.25	3/8	469	10041.10	7700.00	130.4	Fail X
T2	200 - 180	Leg	2	45	-27246.50	57059.73	47.8	Pass
		Diagonal	7/8	82	-2261.45	11442.38	19.8	Pass
		Top Girt	1 1/4	46	1098.47	35334.10	3.1	Pass
		Bottom Girt	7/8	49	-508.35	12223.92	4.2	Pass
		Mid Girt	7/8	52	103.72	17313.67	0.6	Pass
T3	180 - 160	Leg	2 1/2	87	-32651.00	102774.30	31.8	Pass
		Diagonal	7/8	98	-2387.98	11735.30	20.3	Pass
		Top Girt	1 1/2	90	-552.22	43886.22	1.3	Pass
		Bottom Girt	7/8	92	-825.90	12301.68	6.7	Pass
		Mid Girt	7/8	94	230.72	17313.67	1.3	Pass
T4	160 - 140	Leg	2	129	-30019.40	57673.17	52.1	Pass
		Diagonal	7/8	140	-3306.99	11504.71	28.7	Pass
		Top Girt	1 1/4	131	-846.49	28865.85	2.9	Pass
		Bottom Girt	7/8	134	-1342.14	12223.92	11.0	Pass
		Mid Girt	7/8	138	90.50	17313.67	0.5	Pass
T5	140 - 120	Leg	2	171	-35426.60	57673.17	61.4	Pass
		Diagonal	7/8	185	-987.40	11504.71	8.6	Pass
		Top Girt	1 1/4	172	2874.23	35334.10	8.1	Pass
		Bottom Girt	7/8	177	-356.63	12223.92	2.9	Pass
		Mid Girt	7/8	178	99.38	17313.67	0.6	Pass
		Guy A@139.75	3/8	474	9186.58	7700.00	119.3	Fail X
		Guy B@139.75	3/8	473	7024.01	7700.00	91.2	Pass
		Guy C@139.75	3/8	472	7699.92	7700.00	100.0	Pass
T6	120 - 100	Leg	2	213	-56662.90	57673.17	98.2	Pass
		Diagonal	7/8	224	-2271.95	11504.71	19.7	Pass
		Top Girt	1 1/4	216	416.06	35334.10	1.2	Pass
		Bottom Girt	7/8	218	-937.65	12223.92	7.7	Pass
		Mid Girt	7/8	220	120.05	17313.67	0.7	Pass
T7	100 - 80	Leg	2	255	-56666.10	57673.17	98.3	Pass
		Diagonal	7/8	291	-1508.75	11504.71	13.1	Pass
		Top Girt	1 1/4	256	2382.34	35334.10	6.7	Pass
		Bottom Girt	7/8	259	-343.51	12223.92	2.8	Pass
		Mid Girt	7/8	263	143.75	17313.67	0.8	Pass

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor	Page	18 of 18
	Project	10381.00	Date	09:46:29 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P <sub>allow</sub> lb	% Capacity	Pass Fail	
T8	80 - 60	Guy A@99.75	3/8	477	7038.50	7700.00	91.4	Pass	
		Guy B@99.75	3/8	476	4923.66	7700.00	63.9	Pass	
		Guy C@99.75	3/8	475	6203.27	7700.00	80.6	Pass	
		Leg	2	297	-44593.10	57673.17	77.3	Pass	
		Diagonal	7/8	334	-1009.43	11504.71	8.8	Pass	
		Top Girt	1 1/4	298	425.72	35334.10	1.2	Pass	
T9	60 - 40	Bottom Girt	7/8	302	-292.74	12223.92	2.4	Pass	
		Mid Girt	7/8	305	132.06	17313.67	0.8	Pass	
		Leg	2	339	-43820.50	57673.17	76.0	Pass	
		Diagonal	7/8	363	-1788.43	11504.71	15.5	Pass	
		Top Girt	1 1/4	341	356.08	35334.10	1.0	Pass	
		Bottom Girt	7/8	343	-622.63	12223.92	5.1	Pass	
T10	40 - 20	Mid Girt	7/8	347	2143.53	17313.67	12.4	Pass	
		Guy A@50	3/8	480	4364.92	7700.00	56.7	Pass	
		Guy B@50	3/8	479	2898.86	7700.00	37.6	Pass	
		Guy C@50	3/8	478	3564.98	7700.00	46.3	Pass	
		Leg	2	381	-34410.80	57673.17	59.7	Pass	
		Diagonal	7/8	418	-1654.05	11504.71	14.4	Pass	
T11	20 - 2.333	Top Girt	1 1/4	382	714.80	35334.10	2.0	Pass	
		Bottom Girt	7/8	385	-273.40	12223.92	2.2	Pass	
		Mid Girt	7/8	388	139.43	17313.67	0.8	Pass	
		Leg	2	423	-21583.30	63175.67	34.2	Pass	
		Diagonal	7/8	460	-761.36	11916.87	6.4	Pass	
		Top Girt	3x1/2	426	-254.58	19108.69	1.3	Pass	
T12	2.333 - 0	Bottom Girt	3x1/2	428	2582.10	43189.20	6.0	Pass	
		Mid Girt	7/8	430	146.14	17313.67	0.8	Pass	
		Leg	2	463	-21263.50	49896.05	42.6	Pass	
		Top Girt	3x1/2	466	2348.09	43189.20	5.4	Pass	
		Summary							
		Leg (T7)	98.3	Pass					
Diagonal (T4)							28.7	Pass	
Top Girt (T5)							8.1	Pass	
Bottom Girt (T1)							13.0	Pass	
Mid Girt (T9)							12.4	Pass	
Guy A (T1)							134.5	Fail X	
Guy B (T1)							109.7	Fail X	
Guy C (T1)							130.4	Fail X	
RATING =							134.5	Fail X	

## APPENDIX C: Model Results (After Retrofit)

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page 1 of 18
	Project	10381.00	Date 09:25:57 09/10/03
	Client	Cellular One	Designed by kellyp

## Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice+Guy
3	Dead+Wind 90 deg - No Ice+Guy
4	Dead+Wind 180 deg - No Ice+Guy
5	Dead+Ice+Temp+Guy
6	Dead+Wind 0 deg+Ice+Temp+Guy
7	Dead+Wind 90 deg+Ice+Temp+Guy
8	Dead+Wind 180 deg+Ice+Temp+Guy
9	Dead+Wind 0 deg - Service+Guy
10	Dead+Wind 90 deg - Service+Guy
11	Dead+Wind 180 deg - Service+Guy

## Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	220 - 200	Leg	Max Tension	4	4467.87	-37.64	23.20
			Max. Compression	6	-7044.20	21.68	-15.47
			Max. Mx	7	4030.10	-228.05	74.07
			Max. My	8	-5920.51	-1.92	-260.09
			Max. Vy	7	-1446.07	-228.04	74.07
			Max. Vx	8	-1570.93	-1.92	-260.09
		Diagonal	Max Tension	3	787.19	0.00	0.00
			Max. Compression	2	-770.00	0.00	0.00
			Max. Mx	6	541.93	1.57	0.00
			Max. My	6	54.04	0.00	-0.03
			Max. Vy	6	-2.43	0.00	0.00
			Max. Vx	6	0.05	0.00	0.00
		Top Girt	Max Tension	2	180.14	0.00	0.00
			Max. Compression	4	-185.88	0.00	0.00
			Max. Mx	5	-0.15	1.83	0.00
		Bottom Girt	Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	2340.60	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Mid Girt	Max. Mx	5	629.63	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	6	18.32	0.00	0.00
		Guy A	Max. Compression	7	-18.23	0.00	0.00
			Max. Mx	5	0.26	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Guy B	Bottom Tension	8	11263.74		
			Top Tension	8	11486.47		
			Top Cable Vert	8	10434.33		
			Top Cable Norm	8	4802.47		
			Top Cable Tan	8	2.43		
			Bot Cable Vert	8	-10016.63		
			Bot Cable Norm	8	5151.59		
			Bot Cable Tan	8	2.43		
			Bottom Tension	6	8740.37		
			Top Tension	6	8961.99		
			Top Cable Vert	6	7886.02		
			Top Cable Norm	6	4255.15		
			Top Cable Tan	6	146.92		
			Bot Cable Vert	6	-7525.78		

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	2 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T2	200 - 180	Guy C	Bot Cable Norm	6	4436.85		
			Bot Cable Tan	6	266.33		
			Bottom Tension	7	10225.19		
			Top Tension	7	10447.52		
			Top Cable Vert	7	9262.25		
			Top Cable Norm	7	4833.05		
			Top Cable Tan	7	55.41		
			Bot Cable Vert	7	-8843.43		
			Bot Cable Norm	7	5130.33		
			Bot Cable Tan	7	167.11		
		Leg	Max Tension	2	17853.24	-27.44	39.38
			Max. Compression	8	-31245.03	-47.94	128.46
			Max. Mx	6	-6075.23	-133.17	-69.53
			Max. My	8	-7489.20	-27.49	132.08
			Max. Vy	7	-536.98	-34.64	9.66
			Max. Vx	2	613.67	53.82	57.24
		Diagonal	Max Tension	7	2224.83	0.00	0.00
			Max. Compression	7	-2417.64	0.00	0.00
			Max. Mx	6	-1974.91	1.57	0.00
			Max. My	6	513.17	0.00	-0.03
			Max. Vy	6	-2.43	0.00	0.00
			Max. Vx	6	0.05	0.00	0.00
		Top Girt	Max Tension	7	1194.29	0.00	0.00
			Max. Compression	4	-565.01	0.00	0.00
			Max. Mx	5	144.49	1.83	0.00
		Bottom Girt	Max. Vy	5	-4.38	0.00	0.00
			Max Tension	2	544.28	0.00	0.00
			Max. Compression	3	-568.73	0.00	0.00
T3	180 - 160	Leg	Max. Mx	5	12.36	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	6	109.34	0.00	0.00
			Max. Compression	4	-42.09	0.00	0.00
			Max. Mx	5	26.69	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Diagonal	Max Tension	2	23388.09	-77.70	-77.97
			Max. Compression	8	-37699.85	-132.27	30.49
			Max. Mx	7	-25820.85	248.89	21.88
			Max. My	2	-19869.57	-72.43	-266.61
			Max. Vy	7	-536.71	99.45	5.93
			Max. Vx	2	610.89	42.61	-96.02
		Top Girt	Max Tension	2	2041.35	0.00	0.00
			Max. Compression	8	-2013.63	0.00	0.00
			Max. Mx	6	766.57	1.57	0.00
			Max. My	7	1096.73	0.00	0.03
			Max. Vy	6	-2.44	0.00	0.00
			Max. Vx	7	-0.05	0.00	0.00
		Bottom Girt	Max Tension	7	631.40	0.00	0.00
			Max. Compression	2	-579.00	0.00	0.00
			Max. Mx	5	14.32	2.52	0.00
			Max. Vy	5	-6.04	0.00	0.00
			Max Tension	6	740.08	0.00	0.00
			Max. Compression	4	-731.73	0.00	0.00
T4	160 - 140	Mid Girt	Max. Mx	5	24.73	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	6	255.62	0.00	0.00
			Max. Compression	4	-134.85	0.00	0.00
			Max. Mx	5	49.52	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Leg	Max Tension	2	13412.20	-18.23	-88.63
			Max. Compression	8	-29405.90	-59.79	-8.30
			Max. Mx	7	1910.31	251.88	-47.83

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page 3 of 18
	Project	10381.00	Date 09:25:57 09/10/03
	Client	Cellular One	Designed by kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T5	140 - 120	Diagonal	Max. My	8	-3453.62	-43.09	263.23
			Max. Vy	7	1150.55	-35.58	10.77
			Max. Vx	8	1177.44	-12.39	-30.96
			Max Tension	8	2837.37	0.00	0.00
			Max. Compression	2	-2984.47	0.00	0.00
			Max. Mx	7	1974.81	1.57	0.00
			Max. My	7	1428.92	0.00	0.03
			Max. Vy	7	-2.45	0.00	0.00
			Max. Vx	7	-0.05	0.00	0.00
			Max Tension	4	759.28	0.00	0.00
		Top Girt	Max. Compression	2	-699.27	0.00	0.00
			Max. Mx	5	10.33	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	6	1415.02	0.00	0.00
			Max. Compression	8	-1258.82	0.00	0.00
			Max. Mx	5	25.99	1.01	0.00
		Mid Girt	Max. Vy	5	-2.41	0.00	0.00
			Max Tension	8	107.21	0.00	0.00
			Max. Compression	4	-5.75	0.00	0.00
		Leg	Max. Mx	5	37.29	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	3	3433.65	-38.16	7.99
		Diagonal	Max. Compression	6	-18634.51	72.57	-13.22
			Max. Mx	7	1904.17	-323.39	69.37
			Max. My	6	-18303.83	-56.84	352.25
			Max. Vy	7	1151.99	-323.39	69.37
			Max. Vx	8	1178.70	18.33	-325.48
			Max Tension	7	1091.40	0.00	0.00
			Max. Compression	7	-1053.16	0.00	0.00
			Max. Mx	7	-901.83	1.57	0.00
			Max. My	6	58.93	0.00	-0.03
			Max. Vy	7	-2.45	0.00	0.00
		Top Girt	Max. Vx	6	-0.05	0.00	0.00
			Max Tension	6	3001.09	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Bottom Girt	Max. Mx	5	783.32	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	145.83	0.00	0.00
		Mid Girt	Max. Compression	7	-234.02	0.00	0.00
			Max. Mx	5	23.60	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Guy A	Max Tension	8	98.11	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	48.69	1.01	0.00
		Guy B	Max. Vy	5	-2.41	0.00	0.00
			Bottom Tension	8	9679.36		
			Top Tension	8	9813.37		
			Top Cable Vert	8	8512.45		
			Top Cable Norm	8	4882.68		
			Top Cable Tan	8	1.18		
			Bot Cable Vert	8	-8241.98		
			Bot Cable Norm	8	5075.41		
			Bot Cable Tan	8	1.18		
			Bottom Tension	6	7010.08		
			Top Tension	6	7143.64		
			Top Cable Vert	6	5633.71		
			Top Cable Norm	6	4391.27		
			Top Cable Tan	6	98.39		
			Bot Cable Vert	6	-5382.83		
			Bot Cable Norm	6	4487.30		
			Bot Cable Tan	6	174.82		



<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	4 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T6	120 - 100	Guy C	Bottom Tension	7	8330.97		
			Top Tension	7	8464.99		
			Top Cable Vert	7	6746.76		
			Top Cable Norm	7	5112.36		
			Top Cable Tan	7	31.54		
			Bot Cable Vert	7	-6457.84		
			Bot Cable Norm	7	5262.10		
			Bot Cable Tan	7	107.54		
		Leg	Max Tension	4	5110.98	-0.95	116.53
			Max. Compression	6	-32527.86	-41.37	99.69
			Max. Mx	7	-83.51	153.93	-14.84
			Max. My	6	-4759.21	-63.20	-171.07
			Max. Vy	7	687.34	-17.74	2.62
			Max. Vx	8	756.61	-18.28	-38.75
			Max Tension	8	2002.73	0.00	0.00
			Max. Compression	6	-2038.27	0.00	0.00
		Diagonal	Max. Mx	6	383.90	1.57	0.00
			Max. My	6	48.22	0.00	-0.03
			Max. Vy	6	-2.44	0.00	0.00
			Max. Vx	6	-0.05	0.00	0.00
		Top Girt	Max Tension	7	294.90	0.00	0.00
			Max. Compression	2	-115.68	0.00	0.00
			Max. Mx	5	17.49	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	6	982.91	0.00	0.00
			Max. Compression	8	-862.59	0.00	0.00
			Max. Mx	5	44.47	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Mid Girt	Max Tension	8	102.13	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	54.54	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
T7	100 - 80	Leg	Max Tension	4	5108.28	-12.07	-40.32
			Max. Compression	6	-32530.99	-42.70	254.70
			Max. Mx	7	-11037.39	-200.15	-0.51
			Max. My	8	-21286.88	-25.19	-265.69
			Max. Vy	7	688.50	-189.71	20.07
			Max. Vx	8	757.95	-15.68	-228.10
		Diagonal	Max Tension	2	1239.10	0.00	0.00
			Max. Compression	2	-1273.58	0.00	0.00
			Max. Mx	6	-458.92	1.56	0.00
			Max. My	6	270.45	0.00	-0.03
			Max. Vy	6	-2.44	0.00	0.00
			Max. Vx	6	0.04	0.00	0.00
		Top Girt	Max Tension	6	2044.78	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	742.08	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	2	236.33	0.00	0.00
			Max. Compression	4	-197.21	0.00	0.00
			Max. Mx	5	32.80	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Mid Girt	Max Tension	7	118.05	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	66.84	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Guy A	Bottom Tension	8	6265.99		
			Top Tension	8	6345.78		
			Top Cable Vert	8	4947.19		
			Top Cable Norm	8	3974.21		
			Top Cable Tan	8	0.65		

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	5 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T8	80 - 60	Guy B	Bot Cable Vert	8	-4764.17		
			Bot Cable Norm	8	4070.05		
			Bot Cable Tan	8	0.65		
			Bottom Tension	6	4263.21		
			Top Tension	6	4342.77		
			Top Cable Vert	6	2943.82		
			Top Cable Norm	6	3191.66		
			Top Cable Tan	6	82.92		
			Bot Cable Vert	6	-2767.14		
			Bot Cable Norm	6	3241.22		
			Bot Cable Tan	6	111.19		
			Bottom Tension	7	5083.47		
		Guy C	Top Tension	7	5163.27		
			Top Cable Vert	7	3549.03		
			Top Cable Norm	7	3750.04		
			Top Cable Tan	7	30.99		
			Bot Cable Vert	7	-3350.84		
			Bot Cable Norm	7	3822.29		
			Bot Cable Tan	7	60.56		
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-29444.26	-39.21	65.71
			Max. Mx	7	-11166.24	104.79	-10.69
			Max. My	2	-9719.36	-30.19	-126.73
			Max. Vy	7	268.01	-49.98	4.17
			Max. Vx	2	-395.95	-23.38	-27.88
		Diagonal	Max Tension	4	1051.55	0.00	0.00
			Max. Compression	2	-1196.21	0.00	0.00
			Max. Mx	7	-509.33	1.56	0.00
			Max. My	8	-411.51	0.00	0.02
			Max. Vy	7	2.43	0.00	0.00
			Max. Vx	8	-0.03	0.00	0.00
		Top Girt	Max Tension	4	244.65	0.00	0.00
			Max. Compression	2	-160.53	0.00	0.00
			Max. Mx	5	22.22	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	2	537.72	0.00	0.00
			Max. Compression	4	-439.63	0.00	0.00
			Max. Mx	5	34.19	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
		Mid Girt	Max Tension	7	130.29	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	71.76	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
T9	60 - 40	Leg	Max Tension	4	1145.51	-4.89	-26.21
			Max. Compression	6	-35286.62	70.48	124.19
			Max. Mx	7	-32457.65	-131.38	17.16
			Max. My	6	-27571.66	-73.02	173.26
			Max. Vy	7	-479.70	-68.84	-7.47
			Max. Vx	6	455.03	-73.02	173.26
		Diagonal	Max Tension	7	1458.03	0.00	0.00
			Max. Compression	2	-1563.82	0.00	0.00
			Max. Mx	7	571.40	1.56	0.00
			Max. My	8	-407.96	0.00	0.02
			Max. Vy	7	2.43	0.00	0.00
			Max. Vx	8	-0.03	0.00	0.00
		Top Girt	Max Tension	8	529.22	0.00	0.00
			Max. Compression	2	-488.15	0.00	0.00
			Max. Mx	5	23.49	1.83	0.00
			Max. Vy	5	-4.38	0.00	0.00
		Bottom Girt	Max Tension	6	498.41	0.00	0.00
			Max. Compression	7	-530.50	0.00	0.00

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page 6 of 18
	Project	10381.00	Date 09:25:57 09/10/03
	Client	Cellular One	Designed by kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T10	40 - 20	Mid Girt	Max. Mx	5	31.45	1.01	0.00
			Max. Vy	5	-2.41	0.00	0.00
			Max Tension	8	2304.31	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	1095.28	1.01	0.00
		Guy A	Max. Vy	5	-2.41	0.00	0.00
			Bottom Tension	8	4646.45		
			Top Tension	8	4686.67		
			Top Cable Vert	8	2478.46		
			Top Cable Norm	8	3977.70		
		Guy B	Top Cable Tan	8	0.41		
			Bot Cable Vert	8	-2369.14		
			Bot Cable Norm	8	3997.09		
			Bot Cable Tan	8	0.41		
			Bottom Tension	6	3100.02		
			Top Tension	6	3140.15		
			Top Cable Vert	6	1333.92		
			Top Cable Norm	6	2842.02		
			Top Cable Tan	6	64.29		
			Bot Cable Vert	6	-1205.86		
		Guy C	Bot Cable Norm	6	2854.99		
			Bot Cable Tan	6	71.02		
			Bottom Tension	7	3849.35		
			Top Tension	7	3889.55		
			Top Cable Vert	7	1676.08		
			Top Cable Norm	7	3509.82		
			Top Cable Tan	7	22.80		
			Bot Cable Vert	7	-1544.56		
			Bot Cable Norm	7	3525.76		
			Bot Cable Tan	7	30.14		
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-27577.71	-5.89	-54.45
			Max. Mx	7	-15087.13	170.26	19.66
			Max. My	8	-11032.40	-71.40	129.99
			Max. Vy	7	-477.58	50.97	6.12
		Diagonal	Max. Vx	6	456.73	-39.67	59.62
			Max Tension	2	1247.22	0.00	0.00
			Max. Compression	7	-1449.41	0.00	0.00
			Max. Mx	7	-1443.81	1.55	0.00
			Max. My	8	-347.64	0.00	0.01
		Top Girt	Max. Vy	7	-2.42	0.00	0.00
			Max. Vx	8	-0.02	0.00	0.00
			Max Tension	7	617.57	0.00	0.00
			Max. Compression	2	-409.33	0.00	0.00
			Max. Mx	5	33.09	1.83	0.00
		Bottom Girt	Max. Vy	5	-4.38	0.00	0.00
			Max Tension	6	246.73	0.00	0.00
			Max. Compression	7	-158.01	0.00	0.00
			Max. Mx	6	195.24	1.01	0.00
			Max. Vy	6	-2.41	0.00	0.00
		Mid Girt	Max Tension	7	138.90	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	125.20	1.01	0.00
			Max. Vy	6	-2.41	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
T11	20 - 2.333	Leg	Max. Compression	7	-22774.55	17.51	-25.61
			Max. Mx	7	-20336.50	-799.03	436.46
			Max. My	8	-19615.76	31.66	-882.38
			Max. Vy	7	3716.69	-799.03	436.46
			Max. Vx	8	4142.39	31.66	-882.38
		Diagonal	Max Tension	4	785.15	0.00	0.00

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page 7 of 18
	Project	10381.00	Date 09:25:57 09/10/03
	Client	Cellular One	Designed by kellyp

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T12	2.333 -0	Top Girt	Max. Compression	2	-894.06	0.00	0.00
			Max. Mx	7	116.32	1.45	0.00
			Max. My	8	-333.61	0.00	0.01
			Max. Vy	7	-2.42	0.00	0.00
			Max. Vx	8	-0.01	0.00	0.00
			Max Tension	7	252.09	0.00	0.00
		Bottom Girt	Max. Compression	6	-151.22	0.00	0.00
			Max. Mx	6	-84.49	2.36	0.00
			Max. Vy	6	-5.65	0.00	0.00
			Max Tension	6	2698.92	0.00	0.00
		Mid Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	2612.81	2.36	0.00
			Max. Vy	6	-5.65	0.00	0.00
			Max Tension	6	154.64	0.00	0.00
		Leg	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	154.64	1.01	0.00
			Max. Vy	6	-2.41	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-22083.75	40.62	-130.43
			Max. Mx	7	-20443.39	910.21	19.90
			Max. My	4	-13996.88	27.74	-225.50
			Max. Vy	7	3795.30	-116.43	7.81
			Max. Vx	4	178.24	-103.27	9.72
			Max Tension	7	2444.55	0.00	0.00
		Top Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	8	2212.32	1.84	0.00
			Max. My	8	2356.98	0.00	0.38
			Max. Vy	8	-4.94	0.00	0.00
			Max. Vx	8	-1.02	0.00	0.00

## Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Mast	Max. Vert	6	58481.68	3.29	263.65
	Max. H <sub>x</sub>	2	46190.36	3.40	308.28
	Max. H <sub>z</sub>	2	46190.36	3.40	308.28
	Max. M <sub>x</sub>	1	0.00	0.49	15.34
	Max. M <sub>z</sub>	1	0.00	0.49	15.34
	Max. Torsion	4	326.89	0.30	-359.59
	Min. Vert	1	30880.49	0.49	15.34
	Min. H <sub>x</sub>	3	44187.46	-335.73	146.31
	Min. H <sub>z</sub>	4	39945.93	0.30	-359.59
	Min. M <sub>x</sub>	1	0.00	0.49	15.34
	Min. M <sub>z</sub>	1	0.00	0.49	15.34
	Min. Torsion	2	-275.66	3.40	308.28
	Max. Vert	4	-2458.09	-2044.45	933.56
	Max. H <sub>x</sub>	4	-2458.09	-2044.45	933.56
Guy C @ 110 ft Elev 0 ft Azimuth 240 deg	Max. H <sub>z</sub>	7	-20196.66	-15546.39	8553.83
	Min. Vert	7	-20196.66	-15546.39	8553.83
	Min. H <sub>x</sub>	7	-20196.66	-15546.39	8553.83
	Min. H <sub>z</sub>	4	-2458.09	-2044.45	933.56
	Max. Vert	3	-854.05	522.06	419.81
Guy B @ 113 ft Elev 0 ft Azimuth 120 deg	Max. H <sub>x</sub>	4	-2458.09	-2044.45	933.56
	Max. H <sub>z</sub>	7	-20196.66	-15546.39	8553.83

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	8 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Guy A @ 97 ft Elev 0 ft Azimuth 0 deg	Max. H <sub>x</sub>	6	-16881.62	12696.34	8050.02
	Max. H <sub>z</sub>	6	-16881.62	12696.34	8050.02
	Min. Vert	6	-16881.62	12696.34	8050.02
	Min. H <sub>x</sub>	3	-854.05	522.06	419.81
	Min. H <sub>z</sub>	3	-854.05	522.06	419.81
	Max. Vert	9	-431.30	0.01	-185.36
	Max. H <sub>x</sub>	9	-431.30	0.01	-185.36
	Max. H <sub>z</sub>	2	-440.10	-0.00	-141.91
	Min. Vert	8	-10016.63	-2.43	-5151.59
	Min. H <sub>x</sub>	7	-5735.00	-284.19	-2826.94
Guy A @ 83 ft Elev 0 ft Azimuth 0 deg	Min. H <sub>z</sub>	8	-10016.63	-2.43	-5151.59
	Max. Vert	2	-279.55	0.01	-161.60
	Max. H <sub>x</sub>	9	-474.71	0.03	-603.64
	Max. H <sub>z</sub>	2	-279.55	0.01	-161.60
	Min. Vert	8	-15375.30	-2.23	-13142.54
	Min. H <sub>x</sub>	7	-8106.63	-374.13	-6891.08
	Min. H <sub>z</sub>	8	-15375.30	-2.23	-13142.54

## Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear <sub>x</sub> lb	Shear <sub>z</sub> lb	Overturning Moment, M <sub>x</sub> lb-ft	Overturning Moment, M <sub>z</sub> lb-ft	Torque lb-ft
Dead Only	30880.49	-0.49	-15.34	0.00	0.00	4.16
Dead+Wind 0 deg - No Ice+Guy	46190.36	-3.40	-308.28	0.00	0.00	275.66
Dead+Wind 90 deg - No Ice+Guy	44187.46	335.73	-146.31	0.00	0.00	-184.45
Dead+Wind 180 deg - No Ice+Guy	39945.93	-0.30	359.59	0.00	0.00	-326.89
Dead+Ice+Temp+Guy	41508.48	-0.80	-28.62	0.00	0.00	6.05
Dead+Wind 0 deg+Ice+Temp+Guy	58481.68	-3.29	-263.65	0.00	0.00	219.61
Dead+Wind 90 deg+Ice+Temp+Guy	58325.15	318.70	-185.50	0.00	0.00	-174.63
Dead+Wind 180 deg+Ice+Temp+Guy	56394.43	-0.90	305.10	0.00	0.00	-224.30
Dead+Wind 0 deg - Service+Guy	31984.69	-1.39	-286.81	0.00	0.00	190.11
Dead+Wind 90 deg - Service+Guy	32499.47	266.10	-25.48	0.00	0.00	-124.88
Dead+Wind 180 deg - Service+Guy	32694.57	-0.04	215.87	0.00	0.00	-189.48

## Solution Summary

Load Comb.	PX lb	Sum of Applied Forces PY lb	PZ lb	PX lb	Sum of Reactions PY lb	PZ lb	% Error
1	0.00	-14508.64	0.00	0.17	14508.65	1.15	0.008%
2	3.23	-14560.98	-14010.15	-3.20	14560.92	14007.54	0.013%
3	13140.26	-14506.92	-2.40	-13138.61	14506.88	3.60	0.010%

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	9 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
4	-3.23	-14456.31	12954.81	4.97	14456.30	-12954.45	0.009%
5	0.00	-22438.94	0.00	0.24	22438.94	1.35	0.006%
6	8.13	-22570.73	-15573.37	-8.11	22570.67	15571.07	0.008%
7	15315.26	-22434.92	-5.96	-15313.15	22434.87	7.59	0.010%
8	-8.13	-22307.16	15483.13	10.49	22307.15	-15482.73	0.009%
9	1.65	-14535.35	-7148.04	-1.64	14535.34	7147.11	0.006%
10	6704.22	-14507.76	-1.22	-6703.61	14507.75	1.71	0.005%
11	-1.65	-14481.94	6609.60	2.00	14481.93	-6608.37	0.008%

## Non-Linear Convergence Results

Load Combination.	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	10	0.00000001	0.00011706
2	Yes	32	0.00014475	0.00014343
3	Yes	35	0.00012472	0.00010604
4	Yes	24	0.00013189	0.00000001
5	Yes	14	0.00000001	0.00000001
6	Yes	34	0.00012313	0.00011184
7	Yes	36	0.00014480	0.00011747
8	Yes	25	0.00014738	0.00000001
9	Yes	24	0.00000001	0.00000001
10	Yes	25	0.00000001	0.00000001
11	Yes	17	0.00014819	0.00000001

## Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt deg	Twist deg
T1	220 - 200	5.924	11	0.0206	0.7602
T2	200 - 180	5.872	11	0.0102	0.8153
T3	180 - 160	5.768	11	0.0847	0.7409
T4	160 - 140	5.181	11	0.1891	0.6437
T5	140 - 120	4.203	11	0.2323	0.5679
T6	120 - 100	3.262	11	0.2226	0.5171
T7	100 - 80	2.362	11	0.1853	0.4426
T8	80 - 60	1.697	11	0.1467	0.3669
T9	60 - 40	1.110	11	0.1274	0.2932
T10	40 - 20	0.694	10	0.0763	0.2207
T11	20 - 2.333	0.403	10	0.0827	0.1539
T12	2.333 - 0	0.051	10	0.1025	0.0935

## Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt deg	Twist deg	Radius of Curvature ft
220.00	RMU (Remote Units)	11	5.924	0.0206	0.7602	209210
210.00	6810 Circular Polarized FM 5-bay	11	5.893	0.0082	0.8000	104605
205.00	6810 Circular Polarized FM 5-bay	11	5.880	0.0065	0.8122	69737

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	10 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	deg	deg	ft
200.25	Guy	11	5.872	0.0099	0.8154	77044
200.00	6810 Circular Polarized FM 5-bay	11	5.872	0.0102	0.8153	81720
195.00	6810 Circular Polarized FM 5-bay	11	5.866	0.0207	0.8070	49677
190.00	6810 Circular Polarized FM 5-bay	11	5.854	0.0370	0.7898	17607
175.00	(3) DB844H90E-XY w/Pipe Mount	11	5.674	0.1125	0.7154	8158
173.00	(3) DB844H90E-XY w/Pipe Mount	11	5.626	0.1238	0.7053	8365
171.00	(3) DB844H90E-XY w/Pipe Mount	11	5.573	0.1349	0.6954	8574
163.00	PD220	11	5.303	0.1761	0.6573	9336
157.50	PD220	11	5.072	0.1985	0.6326	11905
152.00	PD220	11	4.810	0.2148	0.6096	22897
146.50	PD220	11	4.533	0.2256	0.5888	157237
141.00	PD220	11	4.253	0.2316	0.5708	23522
139.75	Guy	11	4.191	0.2324	0.5672	21721
118.00	Flash Beacon Lighting	11	3.168	0.2197	0.5109	166020
117.50	PR-950	11	3.145	0.2190	0.5093	238025
116.00	PR-950	11	3.074	0.2167	0.5043	113856
114.50	PR-950	11	3.003	0.2142	0.4990	60294
99.75	Guy	11	2.352	0.1847	0.4416	11924
50.00	Guy	11	0.878	0.1003	0.2556	25716

## Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		deg	deg
T1	220 - 200	22.977	6	0.3901	1.3247
T2	200 - 180	21.361	6	0.3672	1.4309
T3	180 - 160	19.647	6	0.5308	1.2944
T4	160 - 140	16.949	6	0.7472	1.1131
T5	140 - 120	13.424	6	0.8382	0.9739
T6	120 - 100	10.034	6	0.7891	0.8900
T7	100 - 80	7.409	2	0.6646	0.7587
T8	80 - 60	5.350	2	0.5091	0.6280
T9	60 - 40	3.533	2	0.3964	0.5001
T10	40 - 20	2.173	2	0.2608	0.3759
T11	20 - 2.333	1.151	2	0.2557	0.2606
T12	2.333 - 0	0.140	2	0.2848	0.1563

## Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	deg	deg	ft
220.00	RMU (Remote Units)	6	22.977	0.3901	1.3247	107919
210.00	6810 Circular Polarized FM 5-bay	6	22.159	0.3620	1.4008	53960
205.00	6810 Circular Polarized FM 5-bay	6	21.756	0.3583	1.4245	35973
200.25	Guy	6	21.380	0.3663	1.4311	40425
200.00	6810 Circular Polarized FM 5-bay	6	21.361	0.3672	1.4309	43054
195.00	6810 Circular Polarized FM 5-bay	6	20.972	0.3914	1.4163	20250
190.00	6810 Circular Polarized FM 5-bay	6	20.572	0.4290	1.3847	7984
175.00	(3) DB844H90E-XY w/Pipe Mount	6	19.082	0.5884	1.2468	3776
173.00	(3) DB844H90E-XY w/Pipe Mount	6	18.835	0.6116	1.2282	3847
171.00	(3) DB844H90E-XY w/Pipe Mount	6	18.576	0.6345	1.2097	3920
163.00	PD220	6	17.425	0.7198	1.1385	4255

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	11 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	deg	deg	ft
157.50	PD220	6	16.534	0.7673	1.0925	5210
152.00	PD220	6	15.580	0.8026	1.0496	8638
146.50	PD220	6	14.592	0.8259	1.0114	26042
141.00	PD220	6	13.602	0.8374	0.9791	13804
139.75	Guy	6	13.380	0.8383	0.9727	12361
118.00	Flash Beacon Lighting	2	9.741	0.7793	0.8793	41660
117.50	PR-950	2	9.673	0.7767	0.8765	39153
116.00	PR-950	2	9.470	0.7689	0.8677	24520
114.50	PR-950	2	9.268	0.7607	0.8585	17391
99.75	Guy	2	7.380	0.6627	0.7569	4893
50.00	Guy	2	2.790	0.3425	0.4413	6607

### Guy Design Data:

Section No.	Elevation	Size	Initial Tension	Breaking Load	Actual T	Allowable T <sub>a</sub>	Required S.F.	Actual S.F.
	ft		lb	lb	lb	lb		
T1	200.25 (A) (471)	1/2 EHS	2690.00	26900.04	11486.50	13450.00	2.000	2.342 ✓
	200.25 (B) (470)	1/2 EHS	2690.00	26900.04	8961.99	13450.00	2.000	3.002 ✓
	200.25 (C) (469)	1/2 EHS	2690.00	26900.04	10447.50	13450.00	2.000	2.575 ✓
T5	139.75 (A) (474)	7/16 EHS	2080.00	20800.02	9813.37	10400.00	2.000	2.120 ✓
	139.75 (B) (473)	7/16 EHS	2080.00	20800.02	7143.64	10400.00	2.000	2.912 ✓
	139.75 (C) (472)	7/16 EHS	2080.00	20800.02	8464.99	10400.00	2.000	2.457 ✓
T7	99.75 (A) (477)	3/8 EHS	1540.00	15399.96	6345.78	7700.00	2.000	2.427 ✓
	99.75 (B) (476)	3/8 EHS	1540.00	15399.96	4342.77	7700.00	2.000	3.546 ✓
	99.75 (C) (475)	3/8 EHS	1540.00	15399.96	5163.27	7700.00	2.000	2.983 ✓
T9	50.00 (A) (480)	3/8 EHS	1540.00	15399.96	4686.67	7700.00	2.000	3.286 ✓
	50.00 (B) (479)	3/8 EHS	1540.00	15399.96	3140.15	7700.00	2.000	4.904 ✓
	50.00 (C) (478)	3/8 EHS	1540.00	15399.96	3889.55	7700.00	2.000	3.959 ✓

### Compression Checks

### Leg Design Data (Compression):

Section No.	Elevation	Size	L	L <sub>u</sub>	K/Lr	Mast Stability Index	F <sub>a</sub>	A	Actual P	Allow. P <sub>a</sub>	Ratio P/P <sub>a</sub>
	ft		ft	ft			ksi	in <sup>2</sup>	lb	lb	
T1	220 - 200	2	20.00	1.98	94.8 K=2.00	1.00	13.625	3.1416	-7044.20	42805.50	0.165 ✓
T2	200 - 180	2	20.00	1.98	94.8 K=2.00	1.00	13.625	3.1416	-31245.00	42805.50	0.730 ✓



<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	Page
	New Windsor Retrofit	12 of 18
	Project	Date
	10381.00	09:25:57 09/10/03
	Client	Designed by
	Cellular One	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>n</sub> ft	KL/r	Mast Stability Index	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T3	180 - 160	2 1/2	20.00	1.95	74.9 K=2.00	0.98	15.621	4.9087	-37699.90	76677.90	0.492
T4	160 - 140	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-29405.90	43265.70	0.680
T5	140 - 120	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-18634.50	43265.70	0.431
T6	120 - 100	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-32527.90	43265.70	0.752
T7	100 - 80	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-32531.00	43265.70	0.752
T8	80 - 60	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-29444.30	43265.70	0.681
T9	60 - 40	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-35286.60	43265.70	0.816
T10	40 - 20	2	20.00	1.95	93.6 K=2.00	1.00	13.772	3.1416	-27577.70	43265.70	0.637
T11	20 - 2.333	2	17.67	1.72	82.4 K=2.00	1.00	15.086	3.1416	-22774.60	47393.60	0.481
T12	2.333 - 0	2	2.52	2.25	108.2 K=2.00	1.00	11.915	3.1416	-22083.70	37431.40	0.590

### Diagonal Design Data (Compression):

Section No.	Elevation ft	Size	L ft	L <sub>n</sub> ft	KL/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	7/8	2.59	2.33	89.4 K=0.70	14.275	0.6013	-769.99	8583.93	0.090
T2	200 - 180	7/8	2.59	2.33	89.4 K=0.70	14.275	0.6013	-2417.64	8583.93	0.282
T3	180 - 160	7/8	2.57	2.25	86.3 K=0.70	14.641	0.6013	-2013.63	8803.68	0.229
T4	160 - 140	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-2984.47	8630.69	0.346
T5	140 - 120	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1053.16	8630.69	0.122
T6	120 - 100	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-2038.27	8630.69	0.236
T7	100 - 80	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1273.58	8630.69	0.148
T8	80 - 60	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1196.21	8630.69	0.139
T9	60 - 40	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1563.82	8630.69	0.181
T10	40 - 20	7/8	2.57	2.31	88.7 K=0.70	14.353	0.6013	-1449.41	8630.69	0.168
T11	20 - 2.333	7/8	2.39	2.16	84.3 K=0.71	14.867	0.6013	-894.06	8939.89	0.100

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page 13 of 18
	Project	10381.00	Date 09:25:57 09/10/03
	Client	Cellular One	Designed by kellyp

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
-------------	-----------------	------	---------	----------------------	------	-----------------------	----------------------	----------------	-----------------------------	--------------------------

### Top Girt Design Data (Compression):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T1	220 - 200	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-185.88	21654.80	0.009 ✓
T2	200 - 180	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-565.01	21654.80	0.026 ✓
T3	180 - 160	1 1/2	1.67	1.46	46.8 K=1.00	18.631	1.7672	-579.00	32922.90	0.018 ✓
T4	160 - 140	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-699.27	21654.80	0.032 ✓
T6	120 - 100	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-115.68	21654.80	0.005 ✓
T8	80 - 60	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-160.53	21654.80	0.007 ✓
T9	60 - 40	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-488.15	21654.80	0.023 ✓
T10	40 - 20	1 1/4	1.67	1.50	57.7 K=1.00	17.646	1.2272	-409.33	21654.80	0.019 ✓
T11	20 - 2.333	3x1/2	1.67	1.50	125.0 K=1.00	9.557	1.5000	-151.22	14335.10	0.011 ✓

### Bottom Girt Design Data (Compression):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T2	200 - 180	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-568.73	9170.23	0.062 ✓
T3	180 - 160	7/8	1.67	1.46	80.1 K=1.00	15.347	0.6013	-731.73	9228.57	0.079 ✓
T4	160 - 140	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-1258.82	9170.23	0.137 ✓
T5	140 - 120	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-234.02	9170.23	0.026 ✓
T6	120 - 100	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-862.59	9170.23	0.094 ✓
T7	100 - 80	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-197.21	9170.23	0.022 ✓
T8	80 - 60	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-439.63	9170.23	0.048 ✓
T9	60 - 40	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-530.50	9170.23	0.058 ✓
T10	40 - 20	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-158.01	9170.23	0.017 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	14 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

### Mid Girt Design Data (Compression):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T1	220 - 200	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-18.23	9170.23	0.002 ✓
T2	200 - 180	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-42.09	9170.23	0.005 ✓
T3	180 - 160	7/8	1.67	1.46	80.1 K=1.00	15.347	0.6013	-134.85	9228.57	0.015 ✓
T4	160 - 140	7/8	1.67	1.50	80.9 K=0.98	15.250	0.6013	-5.75	9170.23	0.001 ✓

### Tension Checks

### Leg Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T1	220 - 200	2	20.00	1.98	47.4	21.600	3.1416	4467.87	67858.40	0.066 ✓
T2	200 - 180	2	20.00	1.98	47.4	21.600	3.1416	17853.20	67858.40	0.263 ✓
T3	180 - 160	2 1/2	20.00	1.95	37.4	21.600	4.9087	23388.10	106029.00	0.221 ✓
T4	160 - 140	2	20.00	1.95	46.8	21.600	3.1416	13412.20	67858.40	0.198 ✓
T5	140 - 120	2	20.00	1.95	46.8	21.600	3.1416	3433.65	67858.40	0.051 ✓
T6	120 - 100	2	20.00	1.95	46.8	21.600	3.1416	5110.98	67858.40	0.075 ✓
T7	100 - 80	2	20.00	1.95	46.8	21.600	3.1416	5108.28	67858.40	0.075 ✓
T9	60 - 40	2	20.00	1.95	46.8	21.600	3.1416	1145.51	67858.40	0.017 ✓

### Diagonal Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio $\frac{P}{P_a}$
T1	220 - 200	7/8	2.59	2.33	127.7	21.600	0.6013	787.19	12988.50	0.061 ✓
T2	200 - 180	7/8	2.59	2.33	127.7	21.600	0.6013	2224.83	12988.50	0.171 ✓
T3	180 - 160	7/8	2.57	2.25	123.3	21.600	0.6013	2041.35	12988.50	0.157 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	15 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	KL/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T4	160 - 140	7/8	2.57	2.31	126.8	21.600	0.6013	2837.37	12988.50	0.218
T5	140 - 120	7/8	2.57	2.31	126.8	21.600	0.6013	1091.40	12988.50	0.084
T6	120 - 100	7/8	2.57	2.31	126.8	21.600	0.6013	2002.73	12988.50	0.154
T7	100 - 80	7/8	2.57	2.31	126.8	21.600	0.6013	1239.10	12988.50	0.095
T8	80 - 60	7/8	2.57	2.31	126.8	21.600	0.6013	1051.55	12988.50	0.081
T9	60 - 40	7/8	2.57	2.31	126.8	21.600	0.6013	1458.03	12988.50	0.112
T10	40 - 20	7/8	2.57	2.31	126.8	21.600	0.6013	1247.22	12988.50	0.096
T11	20 - 2.333	7/8	2.39	2.16	118.3	21.600	0.6013	785.15	12988.50	0.060

### Top Girt Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	KL/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	1 1/4	1.67	1.50	57.7	21.600	1.2272	180.14	26507.20	0.007
T2	200 - 180	1 1/4	1.67	1.50	57.7	21.600	1.2272	1194.29	26507.20	0.045
T3	180 - 160	1 1/2	1.67	1.46	46.8	21.600	1.7672	631.41	38170.40	0.017
T4	160 - 140	1 1/4	1.67	1.50	57.7	21.600	1.2272	759.28	26507.20	0.029
T5	140 - 120	1 1/4	1.67	1.50	57.7	21.600	1.2272	3001.09	26507.20	0.113
T6	120 - 100	1 1/4	1.67	1.50	57.7	21.600	1.2272	294.90	26507.20	0.011
T7	100 - 80	1 1/4	1.67	1.50	57.7	21.600	1.2272	2044.78	26507.20	0.077
T8	80 - 60	1 1/4	1.67	1.50	57.7	21.600	1.2272	244.65	26507.20	0.009
T9	60 - 40	1 1/4	1.67	1.50	57.7	21.600	1.2272	529.22	26507.20	0.020
T10	40 - 20	1 1/4	1.67	1.50	57.7	21.600	1.2272	617.57	26507.20	0.023
T11	20 - 2.333	3x1/2	1.67	1.50	125.0	21.600	1.5000	252.09	32400.00	0.008
T12	2.333 - 0	3x1/2	1.49	1.32	110.1	21.600	1.5000	2444.55	32400.00	0.075

### Bottom Girt Design Data (Tension):

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	16 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	7/8	1.67	1.50	82.5	21.600	0.6013	2340.60	12988.50	0.180 ✓
T2	200 - 180	7/8	1.67	1.50	82.5	21.600	0.6013	544.28	12988.50	0.042 ✓
T3	180 - 160	7/8	1.67	1.46	80.2	21.600	0.6013	740.08	12988.50	0.057 ✓
T4	160 - 140	7/8	1.67	1.50	82.5	21.600	0.6013	1415.02	12988.50	0.109 ✓
T5	140 - 120	7/8	1.67	1.50	82.5	21.600	0.6013	145.83	12988.50	0.011 ✓
T6	120 - 100	7/8	1.67	1.50	82.5	21.600	0.6013	982.91	12988.50	0.076 ✓
T7	100 - 80	7/8	1.67	1.50	82.5	21.600	0.6013	236.33	12988.50	0.018 ✓
T8	80 - 60	7/8	1.67	1.50	82.5	21.600	0.6013	537.72	12988.50	0.041 ✓
T9	60 - 40	7/8	1.67	1.50	82.5	21.600	0.6013	498.41	12988.50	0.038 ✓
T10	40 - 20	7/8	1.67	1.50	82.5	21.600	0.6013	246.73	12988.50	0.019 ✓
T11	20 - 2.333	3x1/2	1.67	1.50	125.0	21.600	1.5000	2698.92	32400.00	0.083 ✓

### Mid Girt Design Data (Tension):

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P lb	Allow. P <sub>a</sub> lb	Ratio P P <sub>a</sub>
T1	220 - 200	7/8	1.67	1.50	82.5	21.600	0.6013	18.32	12988.50	0.001 ✓
T2	200 - 180	7/8	1.67	1.50	82.5	21.600	0.6013	109.34	12988.50	0.008 ✓
T3	180 - 160	7/8	1.67	1.46	80.2	21.600	0.6013	255.62	12988.50	0.020 ✓
T4	160 - 140	7/8	1.67	1.50	82.5	21.600	0.6013	107.21	12988.50	0.008 ✓
T5	140 - 120	7/8	1.67	1.50	82.5	21.600	0.6013	98.11	12988.50	0.008 ✓
T6	120 - 100	7/8	1.67	1.50	82.5	21.600	0.6013	102.13	12988.50	0.008 ✓
T7	100 - 80	7/8	1.67	1.50	82.5	21.600	0.6013	118.05	12988.50	0.009 ✓
T8	80 - 60	7/8	1.67	1.50	82.5	21.600	0.6013	130.29	12988.50	0.010 ✓
T9	60 - 40	7/8	1.67	1.50	82.5	21.600	0.6013	2304.31	12988.50	0.177 ✓
T10	40 - 20	7/8	1.67	1.50	82.5	21.600	0.6013	138.90	12988.50	0.011 ✓
T11	20 - 2.333	7/8	1.67	1.50	82.5	21.600	0.6013	154.64	12988.50	0.012 ✓

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	17 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

## Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P <sub>allow</sub> lb	% Capacity	Pass Fail
T1	220 - 200	Leg	2	3	-7044.20	57059.73	12.3	Pass
		Diagonal	7/8	24	-769.99	11442.38	6.7	Pass
		Top Girt	1 1/4	4	-185.88	28865.85	0.6	Pass
		Bottom Girt	7/8	7	2340.60	17313.67	13.5	Pass
		Mid Girt	7/8	11	-18.23	12223.92	0.1	Pass
		Guy A@200.25	1/2	471	11486.50	13450.00	85.4	Pass
		Guy B@200.25	1/2	470	8961.99	13450.00	66.6	Pass
		Guy C@200.25	1/2	469	10447.50	13450.00	77.7	Pass
T2	200 - 180	Leg	2	45	-31245.00	57059.73	54.8	Pass
		Diagonal	7/8	82	-2417.64	11442.38	21.1	Pass
		Top Girt	1 1/4	46	1194.29	35334.10	3.4	Pass
		Bottom Girt	7/8	49	-568.73	12223.92	4.7	Pass
		Mid Girt	7/8	52	109.34	17313.67	0.6	Pass
T3	180 - 160	Leg	2 1/2	87	-37699.90	102211.63	36.9	Pass
		Diagonal	7/8	126	-2013.63	11735.30	17.2	Pass
		Top Girt	1 1/2	90	-579.00	43886.22	1.3	Pass
		Bottom Girt	7/8	92	-731.73	12301.68	5.9	Pass
T4	160 - 140	Mid Girt	7/8	94	255.62	17313.67	1.5	Pass
		Leg	2	129	-29405.90	57673.17	51.0	Pass
		Diagonal	7/8	140	-2984.47	11504.71	25.9	Pass
		Top Girt	1 1/4	131	-699.27	28865.85	2.4	Pass
		Bottom Girt	7/8	134	-1258.82	12223.92	10.3	Pass
T5	140 - 120	Mid Girt	7/8	138	107.21	17313.67	0.6	Pass
		Leg	2	171	-18634.50	57673.17	32.3	Pass
		Diagonal	7/8	202	-1053.16	11504.71	9.2	Pass
		Top Girt	1 1/4	172	3001.09	35334.10	8.5	Pass
		Bottom Girt	7/8	176	-234.02	12223.92	1.9	Pass
		Mid Girt	7/8	180	98.11	17313.67	0.6	Pass
		Guy A@139.75	7/16	474	9813.37	10400.00	94.4	Pass
		Guy B@139.75	7/16	473	7143.64	10400.00	68.7	Pass
T6	120 - 100	Guy C@139.75	7/16	472	8464.99	10400.00	81.4	Pass
		Leg	2	213	-32527.90	57673.17	56.4	Pass
		Diagonal	7/8	224	-2038.27	11504.71	17.7	Pass
		Top Girt	1 1/4	215	294.90	35334.10	0.8	Pass
		Bottom Girt	7/8	218	-862.59	12223.92	7.1	Pass
		Mid Girt	7/8	222	102.13	17313.67	0.6	Pass
		Leg	2	255	-32531.00	57673.17	56.4	Pass
T7	100 - 80	Diagonal	7/8	291	-1273.58	11504.71	11.1	Pass
		Top Girt	1 1/4	256	2044.78	35334.10	5.8	Pass
		Bottom Girt	7/8	261	-197.21	12223.92	1.6	Pass
		Mid Girt	7/8	262	118.05	17313.67	0.7	Pass
		Guy A@99.75	3/8	477	6345.78	7700.00	82.4	Pass
		Guy B@99.75	3/8	476	4342.77	7700.00	56.4	Pass
		Guy C@99.75	3/8	475	5163.27	7700.00	67.1	Pass
		Leg	2	297	-29444.30	57673.17	51.1	Pass
		Diagonal	7/8	308	-1196.21	11504.71	10.4	Pass
T8	80 - 60	Top Girt	1 1/4	300	244.65	35334.10	0.7	Pass
		Bottom Girt	7/8	302	-439.63	12223.92	3.6	Pass
		Mid Girt	7/8	304	130.29	17313.67	0.8	Pass
		Leg	2	339	-35286.60	57673.17	61.2	Pass
		Diagonal	7/8	363	-1563.82	11504.71	13.6	Pass
T9	60 - 40	Top Girt	1 1/4	341	-488.15	28865.85	1.7	Pass
		Bottom Girt	7/8	343	-530.50	12223.92	4.3	Pass
		Mid Girt	7/8	347	2304.31	17313.67	13.3	Pass
		Guy A@50	3/8	480	4686.67	7700.00	60.9	Pass
		Guy B@50	3/8	479	3140.15	7700.00	40.8	Pass
		Guy C@50	3/8	478	3889.55	7700.00	50.5	Pass
		Leg	2	339	-35286.60	57673.17	61.2	Pass

<b>ERITower</b>  <b>The Chazen Companies</b> 20 Gurley Avenue Troy, New York 121823 Phone: (518) 235-8050 FAX: (518) 235-8051	Job	New Windsor Retrofit	Page	18 of 18
	Project	10381.00	Date	09:25:57 09/10/03
	Client	Cellular One	Designed by	kellyp

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P <sub>allow</sub> lb	% Capacity	Pass Fail
T10	40 - 20	Leg	2	381	-27577.70	57673.17	47.8	Pass
		Diagonal	7/8	418	-1449.41	11504.71	12.6	Pass
		Top Girt	1 1/4	382	617.57	35334.10	1.7	Pass
		Bottom Girt	7/8	387	246.73	17313.67	1.4	Pass
		Mid Girt	7/8	388	138.90	17313.67	0.8	Pass
T11	20 - 2.333	Leg	2	421	-22774.60	63175.67	36.0	Pass
		Diagonal	7/8	434	-894.06	11916.87	7.5	Pass
		Top Girt	3x1/2	426	-151.22	19108.69	0.8	Pass
		Bottom Girt	3x1/2	428	2698.92	43189.20	6.2	Pass
		Mid Girt	7/8	430	154.64	17313.67	0.9	Pass
T12	2.333 - 0	Leg	2	463	-22083.70	49896.05	44.3	Pass
		Top Girt	3x1/2	468	2444.55	43189.20	5.7	Pass
Summary								
		Leg (T9)		61.2	Pass			
		Diagonal (T4)		25.9	Pass			
		Top Girt (T5)		8.5	Pass			
		Bottom Girt (T1)		13.5	Pass			
		Mid Girt (T9)		13.3	Pass			
		Guy A (T5)		94.4	Pass			
		Guy B (T5)		68.7	Pass			
		Guy C (T5)		81.4	Pass			
		RATING =		94.4	Pass			

-----X  
In the Matter of the Application of

MEMORANDUM OF  
DECISION GRANTING

**CELLULAR ONE**

**USE VARIANCE**

CASE #03-52  
-----X

**WHEREAS, Sunset Crest Realty Corp. , owner(s) of 535 Toleman Road, New Windsor, New York, 12553, has made application before the Zoning Board of Appeals for a/an Interpretation and/or Use Variance for telecommunication facility to be located on existing radio tower (48-21M and 48-24 B(3) at 535 Toleman Road in an R-1 zone;**

**WHEREAS, a public hearing was held on November 10, 2003 before the Zoning Board of Appeals at the Town Hall, New Windsor, New York; and**

**WHEREAS, the Applicant, represented by Neil J. Alexander, Esquire, Ms. Eva Billeci of Chazen Engineering and Mr. Kevin Brennan of Cellular One appeared on behalf of this Application; and**

**WHEREAS, there was one spectator appearing at the public hearing; and**

**WHEREAS, the spectator was neither in favor of or in opposition to the Application, but had questions. He stated that he did not oppose the application; and**

**WHEREAS, a decision was made by the Zoning Board of Appeals on the date of the public hearing granting the application; and**

**WHEREAS, the Zoning Board of Appeals of the Town of New Windsor sets forth the following findings in this matter here memorialized in furtherance of its previously made decision in this matter:**

1. The notice of public hearing was duly sent to residents and businesses as prescribed by law and published in The Sentinel, also as required by law.
2. The Evidence presented by the Applicant showed that:
  - (a) There is an existing radio tower, which exists in a residential zone, located in a neighborhood of residential properties.
  - (b) The applicant is a public utility providing wireless telephone service.



- (c) There is a need for cellular wireless service in the area requiring that the applicant install an antenna facility.
- (d) The existing monopole and antenna from a competing wireless carrier is approximately 115' lower in elevation and will not meet the need of this applicant for transmission facilities.
- (e) The site is already enclosed by a fence and if this application is permitted, the applicant will construct a new fence which will be sufficient so that someone cannot climb over the fence and enter the facility.
- (f) The fall zone of the existing tower is within the requirements of the Town of New Windsor Code.
- (g) In constructing the additional items, the applicant will not be removing any trees or substantial vegetation.
- (h) In constructing the applied for items, the applicant will not be creating any water hazards or runoffs or be redirecting the flow of or causing the ponding or collection of water.
- (i) The structure will not be constructed over any easements of any kind.

**WHEREAS,** The Zoning Board of Appeals of the Town of New Windsor makes the following conclusions of law here memorialized in furtherance of its previously made decision in this matter:

1. The Zoning Board of Appeals has conducted a Limited SEQRA Review limited to this application only.
2. The Zoning Board of Appeals after considering the materials submitted by the applicant and the proposal, and after hearing from the public has declared a Negative Declaration.
3. The applicant is a Public Utility and has shown a need for its services.
4. The applicant cannot realize a reasonable return.
5. The alleged hardship relating to the property in question is unique and does not apply to a substantial portion of the district or neighborhood.

6. The Use Variance, if granted, will not alter the essential character of the neighborhood since the tower itself is already in place and the small building required to service it will have a de minimus impact or effect on the neighborhood.
7. The hardship herein has not been self-created since the tower sought to be used by the applicant is already in existence.

**NOW, THEREFORE, BE IT**

**RESOLVED**, that the Zoning Board of Appeals of the Town of New Windsor GRANT a request for an Interpretation and/or Use Variance for telecommunication facility to be located on existing radio tower (48-21M and 48-24 B(3) at 535 Toleman Road in an R-1 zone; as sought by the Applicant in accordance with plans filed with the Building Inspector and presented at the public hearing.

**BE IT FURTHER**

**RESOLVED**, that the Secretary of the Zoning Board of Appeals of the Town of New Windsor transmit a copy of this decision to the Town Clerk, Town Planning Board and/or Building Inspector and Applicant.

Dated: November 10, 2003

A handwritten signature in dark ink, appearing to read "Michael S. Kane", is written over a horizontal line.

Chairman

**TOWN OF NEW WINDSOR  
ZONING BOARD OF APPEALS  
OFFICE  
845-563-4615**

**MEMORANDUM**

**TO: LARRY REIS, COMPTROLLER**  
**FROM: MYRA MASON, SECRETARY TO THE ZONING BOARD**  
**DATE: JANUARY 14, 2004**  
**SUBJECT: ESCROW REFUND - 03-52**

**PLEASE ISSUE A CHECK IN THE AMOUNT OF \$ 340.00 TO CLOSE OUT  
ESCROW FOR:**

**ZBA FILE #03-52 (CELLULAR ONE)**

**NAME & ADDRESS:**

**CHAZEN ENG. & LS  
21 FOX STREET  
POUGHKEEPSIE, NY 12601**

**THANK YOU,**

**MYRA**

**L.R.1-13-2004**



**TOWN OF NEW WINDSOR  
ZONING BOARD OF APPEALS  
RECORD OF CHARGES & PAYMENTS**



FILE #03-52      TYPE:AREA

APPLICANT:  
CELLULAR ONE (HAZEN)

TELEPHONE:    454-3980

RESIDENTIAL:	\$ 50.00	CHECK # _____
COMMERCIAL	\$ 150.00	CHECK # _____
INTERPRETATION	\$ 150.00	CHECK # <u>27116</u>

ESCROW:            COMMERCIAL \$500.00            CHECK # 27117

\*   \*   \*   \*   \*   \*   \*   \*   \*   \*   \*   \*   \*

<u>DISBURSEMENTS:</u>		<u>MINUTES</u> <u>\$4.50 / PAGE</u>	<u>ATTORNEY</u> <u>FEE</u>
PRELIMINARY:	<u>9</u> PAGES	\$ <u>40.50</u>	\$ <u>35.00</u>
2 <sup>ND</sup> PRELIMINARY:	<u>  </u> PAGES	\$ <u>      </u>	\$ <u>      </u>
PUBLIC HEARING:	<u>11</u> PAGES	\$ <u>49.50</u>	\$ <u>35.00</u>
PUBLIC HEARING:	<u>  </u> PAGES	\$ <u>      </u>	\$ <u>      </u>
	TOTAL:	\$ <u>90.00</u>	\$ <u>70.00</u>

\*   \*   \*   \*   \*   \*   \*   \*   \*   \*   \*   \*   \*

ESCROW POSTED:      \$ 500.00  
LESS: DISBURSEMENTS:    \$ 160.00

AMOUNT DUE:            \$ \_\_\_\_\_

REFUND DUE:            \$ 340.00

L.R. 1-13-04

CELLULAR ONE (CHAZEN ENG.) 03-52

MR. KANE: Request for interpretation and/or use variance for telecommunication facility to be located on existing radio tower (48-21M and 48-24B(3) at 535 Toleman Road in an R-1 zone.

Neil J. Alexander, Esq., Ms. Eva Billeci and Mr. Kevin Brennan appeared before the board for this proposal.

MR. KANE: Is there anybody from the public that's here to speak on this issue? Hold on, we'll get your name and address written on this and when we open to the public, you can ask your questions, sir.

MR. ALEXANDER: Good evening, my name is Neil Alexander, I'm an attorney with the law firm of Cuddy & Feder. Also with me is Eva Billeci from the Chazen Company and Kevin Brennan from Cellular One. First thing, housekeeping, in all the paperwork we gave Myra, we didn't submit the original short form EAF and there's a copy for the files and all the paper that we buried her with, as the board may be aware, we submitted an application for site plan and special permit to develop a wireless facility that's pending in front of the planning board. During the course of processing a somewhat minimal installation, we ran into a question with the building inspector as to what is the procedural way to get through this, that is our request for an interpretation in the alternative a use variance. Before I get into the, into some of the legal stuff, I want to pull back and talk about what Cellular One is looking to do here and it's very minor what they're looking to do. This is an existing approximately 224 foot tower, radio transmission tower with a lot of antennas. Cellular One wants to put 6 antennas at the 173 foot mark on the facility. Each antenna is approximately 48 inches by eight inches by 5 1/2 inches. At the ground they want to put in a 12 x 20 foot equipment cabinet which will be fenced and

which will be similar, actually much smaller than the existing 300 foot L-shaped building that's there. That's really all the installation entails. At present, the road is not in the world's greatest condition. As part of its application, Cellular One will make substantial improvements to it, put down Item 4, put down oil and shale, can't do anything about making the grade better. As we talked about this with the planning board and we'll talk about this more with them on Wednesday, but I wanted you to understand really what this all about before we really got into sort of why we're here, which is it was Cellular One's understanding after it read the code that the facility that he was creating in the zone was a shared, really fell under the definition of a shared use. Because there's an existing facility up there, we're going to use it and therefore, it's sharing, different than co-location under your law but in the sense that it wasn't built as a wireless facility, so it's more like what we're doing, putting antennas on top of a rooftop. From Cellular One's perspective, it's not a pivotal issue whether you decided to share use or if you didn't agree with us and want to grant a use variance instead. Cellular One's in the business of providing wireless service, that's really what its most important for us to get and they provide that service. Just so you know, the standard's a little different for when a wireless carrier seeks a use variance in the State of New York Court of Appeals, Cellular One versus Rosenberg, determined that wireless carriers are no different than any utility, like Niagara Mohawk, it's a public utility, needing to provide their service to the public. So what they need to show you is that there is a need that they have to fill and we provided you with a radio frequency report which showed that. Regretably, the Nextel monopoly that's across the street is approximately 150 feet lower in elevation and it doesn't work for Cellular One and doesn't meet its need and using this is from Cellular One's perspective a great solution. There is no need to build a new

tower, we're right across from the zone line between commercial and residential so we're as close as you can be to being a commercial property. It's actually residential property that's been used as you know for a long time as a commercial use. So we believe this is a solid application and any questions or any other things we can provide we're here to.

MR. KANE: So if you were to use the Nextel tower, would Cellular One have to build at some point a new tower?

MR. BRENNAN: If we were to use the--

MR. KANE: Nextel tower?

MR. ALEXANDER: They'll give us a lease to use it, it won't fulfill our needs.

MR. KANE: Which means in the future at some point would it be necessary at that point to build another tower to fulfill your needs, a new tower?

MR. ALEXANDER: In the Town as a whole, there's a chance that somewhere, I'm sorry--

MR. KRIEGER: By getting the higher elevation of the tower that you recommend, would that save you the consideration of possibly having to build another tower in the future to get the same coverage?

MR. BRENNAN: If we were--

MR. KRIEGER: If you were on Nextel.

MR. BRENNAN: If we went on Nextel's tower?

MR. KRIEGER: You might well have to build another tower.

MR. ALEXANDER: Yes.

MR. KRIEGER: If you're allowed to co-locate, share on the GNY tower, that would save the possibility?

MR. BRENNAN: If we can on the GNY tower we'll service the balance of New Windsor, which is on the other side of the hill out 207 which the current Nextel tower is at the very, it's only five foot difference in the ground elevation and the 150 foot elevation, so it doesn't even see over that.

MR. KANE: I understand that, I just want to get it all on the record.

MR. BRENNAN: If we went on Nextel.

MR. KANE: If we allow you to do this, we're saving building another tower somewhere down the line.

MR. ALEXANDER: Exactly correct.

MR. BRENNAN: Yes.

MR. MINUTA: I read briefly through some of this. Is there a fence proposed for this site?

MS. BILLECI: Yeah, fencing on the accessway to the equipment building.

MR. MINUTA: And the site itself?

MS. BILLECI: Site's already got fence around the tower so it already closes in, you're using the building on some sides and fence on other but yeah, it's completely squared in now.

MR. BRENNAN: Basically what we're doing is our doorway's going to face the existing building, so our building which is a stone building would act as a



barrier, then we would fence connecting the old building so we would be within the fencing compound of our own entranceway and our building and our cables but we're not fencing in the entire, the balance of the building.

MR. MINUTA: That would be sufficient so that someone can't climb the fence and climb the tower.

MR. BRENNAN: Tower itself is fenced in.

MR. KANE: I think what I'm going to do at this point we have one gentleman in the public is to open up the public portion of this meeting and let this gentleman ask whatever questions he has.

MR. LOREEN: Jerry Loreen (phonetic), Toleman Road. You're going to be putting this on the existing tower, the radio tower?

MR. BRENNAN: Yes.

MR. LOREEN: What kind of affects is it going to be health wise to people, anything?

MS. BILLECI: Nothing.

MR. BRENNAN: Absolutely nothing.

MR. LOREEN: Is there going to be any different looks of it?

MR. BRENNAN: What you will see is our antennas.

MR. ALEXANDER: Our antennas are going to be right here, this is what it would look like, let me give you a color rendering if I can pull it out.

MR. BRENNAN: Which house are you at, sir?

MR. LOREEN: 515 Toleman Road.

MR. ALEXANDER: Here's what exists now, this is what it would look like when it's done, it's going to be the same height difference, the red area, these antennas right here.

MR. KANE: Instead of them, what they're asking to do to be able to use the tower which currently isn't allowed to be used for wireless, if I've got this correct, and there's a wireless tower they could use but if they use that one then in the future they'd have to build a new tower in Town to take care of their needs. Federal regulations makes it very tough to stop them from building that tower, so what we're looking at is using the existing site which is what New Windsor really wants to do.

MR. LOREEN: So basically just going to put this on the tower, not going to be any different or any construction?

MR. BABCOCK: They're building a new shed. Other than that, that's it.

MR. BRENNAN: It's going to be a stone building.

MR. ALEXANDER: At grade, it's a 12 x 20 foot pre-cast, pre-fabricated shelter.

MR. LOREEN: Re-do the road?

MR. ALEXANDER: Yes.

MR. BRENNAN: Is your house on either side?

MR. LOREEN: I'm on the left side of it, probably two houses from it.

MR. KANE: Did they answer your questions, sir?

MR. LOREEN: Yes.

MR. KANE: Anything else?

MR. LOREEN: No.

MR. KANE: Do you have a problem with them doing it this way?

MR. LOREEN: It's only going to be the antennas on there.

MR. KANE: Correct.

MR. KRIEGER: Now, if you were to, hypothetically, if you were to use the Nextel tower, you'd have to add the antenna apparatus on there?

MR. ALEXANDER: Right.

MR. KRIEGER: Same apparatus, just a question of which tower you put it on?

MR. ALEXANDER: Correct.

MR. BABCOCK: I have one thing--

MR. KANE: Let me close the public hearing. You have no further questions?

MR. LOREEN: No.

MR. KANE: Let me close the public portion of the meeting and ask Myra how many mailings we had.

MS. MASON: On the 28th of October, 20 addressed envelopes were mailed out and I had no responses.

MR. KANE: Mike?

MR. BABCOCK: In talking with Mark Edsall, the planning board engineer, we feel that we want to say that if it's, if you do an interpretation of this, it would also be an interpretation that they would not need a special permit at the planning board because they would be there by your interpretation. What that would do is basically eliminate when they go back to the planning board, if they go back and they have to get a special permit, it's going to require them to go for another public hearing at the planning board which we don't feel that they really need to do.

MS. MASON: They're already doing that, they're doing that Wednesday night, they're having a public hearing, they requested to do that.

MR. ALEXANDER: Just so everything's on the up, we're on a very tight time schedule so and we appreciate your bringing that up and we really do, so what we did was we belt and suspendered it, we felt you can schedule a public hearing, if we didn't need it, then I obviously--

MR. BABCOCK: The code says that you can install them and they can be installed as a special permit. This really isn't installing a tower, just putting up the antenna, so we didn't believe that they have to get a special permit. But if they applied and they're going Wednesday night, it's as good as done.

MS. MASON: What Mark said was that we would just tell the public that it's not a requirement by special permit at the public hearing but they're still going to have the public hearing.

MR. BABCOCK: There's one gentleman, I'm sure he's got notice for Wednesday night's meeting.

MR. MINUTA: Special permit would be applicable

strictly to this site just for clarification?

MR. KANE: Yes.

MR. RIVERA: The additional weight, will that diminish the structural integrity of the tower?

MR. BRENNAN: We've done a structural analysis of the tower which is submitted to both the planning board and I believe your board, we have to upgrade the guy cables and that's all we have to do and it falls within the structural analysis.

MR. RIVERA: Thank you.

MR. MINUTA: And the fall zone radius?

MR. BRENNAN: Fall zone radius is within.

MS. BILLECI: It's 30 percent of the tower height.

MR. MINUTA: That's within our regulations.

MS. BILLECI: That's within your, yeah, it's maybe 60 foot diameter and the parcel itself is one acre so it doesn't even fall outside the parcel.

MR. BRENNAN: One other thing that I may say here tonight that that tower is 224 feet, that there's no such thing as a guy tower, it's designed to collapse basically within itself, that tower will never go because of the guys. If you see, there's three separate different guys going up the tower. If the tower itself collapsed, it would collapse within itself because the weaker points are at each of those points coming down. So the towers are designed to collapse within themselves, even the large monopoles won't fall over, they'll bend.

MR. KANE: Not going to be cutting down any trees, cut

through all the little things, trees, substantial vegetation in the building of either the tower, adding on the antennas, the new building that you're putting up there?

MR. ALEXANDER: No.

MR. KANE: Not creating water hazards or runoffs?

MS. BILLECI: No.

MR. KANE: Not over any easements, anything like that?

MS. BILLECI: No.

MR. KANE: Okay, our next thing, Andy, is to take care of the SEQRA.

MR. KRIEGER: First of all, you have to declare that you're going to review it as a limited review, limited to this proceeding only.

MR. KANE: So we're going to do a limited SEQRA review to this meeting only?

MR. KRIEGER: Yes.

MR. KANE: And we'll need to vote on that, gentlemen, I need a proposal.

MR. MINUTA: I make a motion that we make a SEQRA review limited to the purpose of this meeting.

MR. REIS: Second it.

ROLL CALL

MR. REIS	AYE
MR. MINUTA	AYE
MR. RIVERA	AYE

MR. KANE                      AYE

MR. KANE:    Need a motion to declare a negative  
declaration on that.

MR. MINUTA:    Make a motion that we declare negative  
declaration.

MR. RIVERA:    Second it.

ROLL CALL

MR. REIS	AYE
MR. MINUTA	AYE
MR. RIVERA	AYE
MR. KANE	AYE

MR. KANE:    Next step I think is the use variance.

MR. MINUTA:    I'd like to make a motion for a use  
variance for this subject property for Cellular One  
radio tower at 535 Toleman Road.

MR. REIS:    Second it.

ROLL CALL

MR. REIS	AYE
MR. MINUTA	AYE
MR. RIVERA	AYE
MR. KANE	AYE

MR. KANE:    So we opted not to do the interpretation.

MR. ALEXANDER:    Thank you very much.



RESULTS OF Z.B.A. MEETING OF: November 10, 2003

PROJECT: Cellular One ZBA # 03-52  
P.B.#



USE VARIANCE:

NEED: EAF ☒

PROXY

*Limited Review*

LEAD AGENCY: M) MN S) RS VOTE: A 4 N 0  
RIVERA A  
~~MCDONALD~~ A CARRIED: Y ☒ N ☐  
REIS A  
MINUTA A  
KANE A

NEGATIVE DEC: M) MN S) RV VOTE: A 4 N 0  
RIVERA A  
~~MCDONALD~~ A CARRIED: Y ☒ N ☐  
REIS A  
MINUTA A  
KANE A

PUBLIC HEARING: M)     S)     VOTE: A     N      
RIVERA      
~~MCDONALD~~     CARRIED: Y     N      
REIS      
MINUTA      
KANE    

APPROVED: M) MN S) RS VOTE: A 4 N 0  
RIVERA A  
~~MCDONALD~~ A CARRIED: Y ☒ N ☐  
REIS A  
MINUTA A  
KANE A

ALL VARIANCES - PRELIMINARY APPEARANCE:

SCHEDULE PUBLIC HEARING: M)     S)     VOTE: A     N      
RIVERA      
MCDONALD      
REIS      
MINUTA      
KANE      
CARRIED: Y     N    

PUBLIC HEARING: STATEMENT OF MAILING READ INTO MINUTES ☒

VARIANCE APPROVED: M)     S)     VOTE: A     N    .

RIVERA      
~~MCDONALD~~     CARRIED: Y     N    .  
REIS      
MINUTA      
KANE    

*Use Variance*

*Not Special Permit*



TOWN OF NEW WINDSOR ZONING BOARD  
PUBLIC HEARING FOR:

Cellular One

DATE: November 10, 2003

SIGN-IN SHEET

	NAME	ADDRESS
1.	<u>Gerald Lorraine</u>	<u>515 Toloman Rd Rock Tavern</u> <u>NJ</u>
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

**ZONING BOARD OF APPEALS: TOWN OF NEW WINDSOR  
COUNTY OF ORANGE: STATE OF NEW YORK**

In the Matter of the Application for Variance of

## CELLULAR ONE

# AFFIDAVIT OF SERVICE BY MAIL

#03-52

STATE OF NEW YORK )  
 ) SS:  
COUNTY OF ORANGE )

MYRA L. MASON, being duly sworn, deposes and says:


That I am not a party to the action, am over 18 years of age and reside at 67 Bethlehem Road, New Windsor, NY 12553.

That on the 28TH day of **OCTOBER, 2003**, I compared the **20** addressed envelopes containing the Public Hearing Notice pertinent to this case with the certified list provided by the Assessor's Office regarding the above application for a variance and I find that the addresses are identical to the list received. I then placed the envelopes in a U.S. Depository within the Town of New Windsor.

Sworn to before me this

Myra L. Mason  
Myra L. Mason, Secretary

10<sup>th</sup> day of November, 2003

  
Notary Public

**JENNIFER MEAD**  
**Notary Public, State Of New York**  
**No. 01ME6050024**  
**Qualified In Orange County**  
**Commission Expires 10/30/ 2006**



# Town of New Windsor

555 Union Avenue  
New Windsor, New York 12553  
Telephone: (845) 563-4631  
Fax: (845) 563-4693

## Assessor's Office

October 27, 2003

Chazen Engineering  
21 Fox Street  
Poughkeepsie, NY 12601  
Attn: Suzanne Cossa

Re: 29-1-27.51

Dear Ms. Cossa:

According to our records, the attached list of property owners are within five hundred (500) feet of the above referenced property.

The charge for this service is \$35.00, minus your deposit of \$25.00.

Please remit the balance of \$10.00 to the Town Clerk's Office.

Sincerely,

A handwritten signature in cursive script that reads "J. Todd Wiley". The signature is enclosed in a hand-drawn oval.

J. Todd Wiley, IAO  
Sole Assessor

JTW/lrd

CC: Myra Mason, ZBA

29-1-26.11 & 29-1-92  
Rock Tavern Village LP  
400 BaMar Drive  
Stony Point, NY 10980

29-1-30  
Peter & Lisa Lawrence  
3 Vance Road  
Rock Tavern, NY 12575

29-1-27.1  
David & Mildred Perez  
539 Toleman Road  
Rock Tavern, NY 12575

29-1-31  
Gary & Lynn Boyce  
1555 Little Britain Road  
Rock Tavern, NY 12575

29-1-27.2  
Jay & Diane Oldham  
551 Toleman Road  
Rock Tavern, NY 12575

29-1-62  
William & Phyllis Eich  
538 Toleman Road  
Rock Tavern, NY 12575

29-1-27.3  
George & Iga Gottlieb  
561 Toleman Road  
Rock Tavern, NY 12575

29-1-63  
Ronald & Deborah Eaton  
530 Toleman Road  
Rock Tavern, NY 12575

29-1-27.41  
Raymond Czumak  
18 Schofield Lane  
Cornwall, NY 12518

29-1-64  
Scott & Ann Miller  
141 Bruynswick Road  
New Paltz, NY 12561

29-1-57.52  
Mary Czumak  
18 Schofield Lane  
Cornwall, NY 12518

29-1-91  
Stowaway Self Storage VII, LLC  
580 Toleman Road  
Rock Tavern, NY 12575

29-1-28.1  
Unitarian Society of Orange County  
9 Vance Road  
Rock Tavern, NY 12575

52-1-15.1  
Craig & Carrie Callahan  
527 Toleman Road  
Rock Tavern, NY 12575

29-1-28.21  
Joseph & Lucy Feola  
11 Vance Road  
Rock Tavern, NY 12575

52-1-58.1  
Lonnie & Lawrence Richardson  
521 Toleman Road  
Rock Tavern, NY 12575

29-1-28.22  
Joseph & Florinda Sabella  
PO Box 27  
Rock Tavern, NY 12575

52-1-58.2  
Gerald & Debra Lorraine  
515 Toleman Road  
Rock Tavern, NY 12575

29-1-29  
Carl & Kristi Pacella  
5 Vance Road  
Rock Tavern, NY 12575

52-1-58.3  
Patricia Naf  
C/o Elaine Dominquez  
229 Conklingtown Road  
Goshen, NY 10924

**PUBLIC HEARING NOTICE**  
**ZONING BOARD OF APPEALS**  
**TOWN OF NEW WINDSOR**

PLEASE TAKE NOTICE that the Zoning Board of Appeals of the TOWN OF NEW WINDSOR, New York, will hold a Public Hearing pursuant to Section 48-34A of the Zoning Local Law on the following Proposition:

**Appeal No. 03-52**

**Request of CELLULAR ONE**

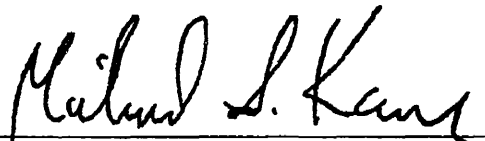
**for a VARIANCE of the Zoning Local Law to Permit:**

**INTERPRETATION AND/OR VARIANCE FOR CO-LOCATION OF  
TELECOMMUNICATIONS FACILITY ON TALL STRUCTURE IN R-1 ZONE.**

**for property located at: 535 TOLEMAN ROAD – NEW WINDSOR, NY**

**known and designated as tax map Section 29, Block 1, Lot 27.51,**

**PUBLIC HEARING will take place on NOVEMBER 10TH, 2003  
at the New Windsor Town Hall, 555 Union Avenue, New Windsor, New York  
beginning at 7:30 P.M.**

A handwritten signature in black ink, appearing to read "Michael S. Kane", is written over a horizontal line.

**Michael Kane, Chairman**

# **TOWN OF NEW WINDSOR** **REQUEST FOR NOTIFICATION LIST**

DATE: 10-21-03 PROJECT NUMBER: ZBA# XXX P.B. # \_\_\_\_\_

APPLICANT NAME: CELLULAR ONE (CHAZEN ENG.)

PERSON TO NOTIFY TO PICK UP LIST:

CHAZEN ENGINEERING (EVA BILLECI)  
21 FOX STREET  
POUGHKEEPSIE, NY 12601

TELEPHONE: 454-3980

TAX MAP NUMBER: SEC. 29 BLOCK 1 LOT 27.51  
SEC. \_\_\_\_\_ BLOCK \_\_\_\_\_ LOT \_\_\_\_\_  
SEC. \_\_\_\_\_ BLOCK \_\_\_\_\_ LOT \_\_\_\_\_

PROPERTY LOCATION: 535 TOLEMAN ROAD  
NEW WINDSOR

THIS LIST IS BEING REQUESTED BY:

NEW WINDSOR PLANNING BOARD: \_\_\_\_\_

SITE PLAN OR SUBDIVISION: (ABUTTING AND ACROSS ANY STREET) \_\_\_\_\_

SPECIAL PERMIT ONLY: (ANYONE WITHIN 500 FEET) \_\_\_\_\_

AGRICULTURAL DISTRICT:  
(ANYONE WITHIN THE AG DISTRICT WHICH IS WITHIN 500'  
OF SITE PLAN OR SUBDIVISION PROJECT) \_\_\_\_\_

❖ ❖

NEW WINDSOR ZONING BOARD XXX

LIST WILL CONSIST OF ALL PROPERTY WITHIN 500 FEET OF PROJECT XXX

❖ ❖

AMOUNT OF DEPOSIT: 25.00 CHECK NUMBER: 27118

TOTAL CHARGES: \_\_\_\_\_

CELLULAR ONE (CHAZEN ENG.) (#03-52)

MR. KANE: Request for interpretation and/or use variance for telecommunication facility to be located on existing radio tower (48-21M and 48-24 B(3)) at 535 Toleman Road in an R-1 zone.

Mr. Chris Fisher and Ms. Eva Billeci appeared before the board for this proposal.

MR. KANE: Could you both sign in so we have your name for the stenographer please? Thank you.

MR. FISHER: This is actually a pretty straightforward application. We're proposing to put 9 panel antennas and this is a WGNV, they're existing in Town on the existing tower below the existing height, that's what they'll look like. There's already at the base of the tower about 225 foot tower, this is about 175 feet plus minus at the base of the tower. Now there's already an equipment shelter that has all the electronics through the broadcast facilities that are there. We're going to put another shed next to it, about 300 square feet so it's a little bit bigger than your average but not much. To enclose, 240, that will just enclose the electronics for the cellular telephone antennas. The only reason we're here we had an application before the planning board, there's this question on the zoning code as to whether or the intent of the Town Board when they adopted the wireless regulations was to allow these even as a co-located facility on the existing tower because this happens to be a residential zone. When we looked through the code, everything that you read throughout the code says co-locations preferred, we don't want new towers. We want you to co-locate the facilities and if you propose a new tower, prove to us why you can't do something like this. There's another section of the code that says these regulations apply to various zoning districts, mostly commercial and industrial zones, the way we look at that the way which makes the most sense in interpreting the code would be this is allowed but you wouldn't allow a new tower in residential zone and I think this is probably what the Town Board was going for when they adopted the regulations. I'd be really surprised if they said this

little antenna on an existing tower that's there are there and legal requires a use variance, but we have asked for that in the alternative, in the event that you didn't find that the interpretation was appropriate so we can get the facility permitted. We've got to go back to the planning board for a special permit and site plan no matter what, we've got two boards, we're asking for a hearing, the planning board has scheduled a hearing, I believe for this meeting, which would be a couple days after your next available date. So we're hoping to get a hearing and if all works well, we can get your approvals.

MR. KANE: Did you read the package? Do you have any questions?

MR. MINUTA: I have a couple questions. With regard to the tower itself, the tower will substantially hold the proposed antennas? You have an engineering report for that?

MR. FISHER: Chazen did a structural which was in the package that demonstrates that.

MR. MINUTA: Does this existing tower, has it been designed to have a fall zone of one half its height?

MR. FISHER: I'm not sure what the existing design engineering would be on this guy tower. I don't know if you want to answer that question.

MS. BILLECI: How this one falls, no, I think the setbacks are around that.

MR. FISHER: A guy tower falls substantially different than what you're seeing in monopolls.

MR. MINUTA: I'm familiar, I've designed about 120 of them myself.

MR. FISHER: They don't fall over, they come down.

MR. MINUTA: Be designed to have a halfway break point. My question is does this tower have that?



MR. FISHER: Well, my own understanding, although I'm not an engineer of guy tower facilities is that they don't actually bend over or fall over, it would be a yield point halfway but they're sectioned and due to the different guy tensions that they'd collapse more down into the property which supports them. I don't know the answer and honestly, with respect to both the interpretation and use variance relief we've sought, I'm not, because of its location, it's really not a criteria that's in the wireless regulations, if it was a new tower, you'd have certain standards certainly.

MR. MINUTA: Correct, but you're asking for a variance on this. I have no issues with that, I think what you're doing here is commendable, trying to put it on the existing tower without building a new one. My question does relate to, however, the fall zone, which is more of a planning board issue so I should, I will direct it to them for a question at that time.

MR. FISHER: We can try and find out.

MR. KRIEGER: You should be aware that the purpose of the preliminary hearing is so that you can find out as much as the board can find out what the application is so you can find out what the concerns of the various members of the board are so that you'd be better prepared at the time of the public hearing to address these questions.

MR. KANE: If you can get that information for the public hearing or as much as is available to you we'd appreciate that.

MR. FISHER: Sure.

MR. KRIEGER: Certainly I should think the board would want to know what's around the tower.

MR. KANE: Is there a home within 200 feet of the tower?

MS. BILLECI: Nearest property line is a hundred and--

MR. KANE: If you can do that, we'd like to know.

MR. FISHER: Obviously, we have properties that are within the 500 foot notice.

MR. BABCOCK: I have a map here of where the existing tower's supposed to be and it's the proposed location and it's about 150 feet diagonally to the property line, 145, 148, 144 and 139, it's pretty much dead center of the piece of the property.

MR. FISHER: So try to look at the area, see where the house is in relation.

MR. KANE: Lot of trees around the tower?

MS. BILLECI: It's pretty much cleared out around the tower and then there's trees surrounding the property line shielding it from the residences.

MR. KANE: Okay.

MR. REIS: It's a very rural area right there, I think the closest house to it physically to it is probably 300 feet or so.

MR. KANE: Approximately.

MR. MC DONALD: You're going to be at 175 feet?

MR. FISHER: That's correct.

MR. KANE: The other concern was that if you can for the public hearing make sure you're going to put 9 on there, we want to make sure that it can handle that.

MR. MINUTA: Yes.

MS. BILLECI: We did a performance structural analysis, we do have some of the guy wires are old and frayed so we do suspect they'll need to be replaced and one of the things that Town engineer asked for was a detail for that so we'll provide that.

MR. MINUTA: I did have one final question and my question is with respect to there's another tower

located across the street and I'm wondering why you couldn't, that question is going to be raised anyway so we'll raise it here, so you can answer it, why can't you locate on that tower?

MS. BILLECI: Topographically, it doesn't work. If you look at this radio tower, it's up on a hill. You're literally probably about 150 foot up the hill from where the next cell tower is, base elevation, and the available, next available height is 130 feet, the available height on this is 170 so you're literally getting 100 feet higher by co-locating on this radio tower versus going on the Nextel tower.

MR. MINUTA: So you're eliminating radio frequency shadowing?

MS. BILLECI: Getting a better area.

MR. BRENNAN: Kevin Brennan from Cellular One. The hill that the tower zone, right now, the radio tower versus the other, if you were to go out there and stand at the elevations, they have their tower that it just barely gets over that hill that exists, okay, if we went onto that new tower, we'd have to go lower, the differential that we have to get to get the same propagations that we get now are some 75 feet higher on that new tower. And one of other questions when we first started was why that tower was built and not co-located on the radio tower cause we interpreted the law a little differently.

MR. MINUTA: Did you find an answer?

MR. BRENNAN: Yes, sir, answer was to--

MS. BILLECI: We were told that Nextel doesn't co-locate and they wanted to build their own towers.

MR. BRENNAN: That's what they told the Town. So I don't know why we're not, I can't get into it, but I can tell you we addressed it and we looked at it very seriously because we figured there must have been a reason that one was at the other.

MS. BILLECI: We provided RF propagation counts showing why the Nextel tower doesn't work and the radio tower does and they're in that package, they're in your package.

MR. KANE: Anything else?

MR. MINUTA: I'm all set, yes, thank you.

MR. KRIEGER: Okay, couple of things here. First of all, with respect to the towers, I don't know if this is the case for this particular tower or not, but just for the board's information, the cell tower law in New Windsor requiring co-location has been referred to previously encouraging co-location, co-location was actually enacted after one or more cell towers had been erected in this Town, whether this predate, whether this tower predates that law or not, I don't know. But that's one of the reasons why a different standard might be applied to this applicant than appears to have been applied to Nextel at the time they built their tower. Secondly, I want to mention to the board that I have been in contact with the attorney for the, and a substantial conversation with the attorney for the applicant here with regard to the legal issues which are substantial. Without belaboring a point, this falls into what appears to be a bit of a gray area and as a result of that conversation, it was my suggestion that they come here as they are tonight to explain to the board what they want to do. And a mechanism that you're probably familiar with is for an interpretation and/or use variance, in this particular case, you may want to consider the use variance cart before the horse, if you will, you may want to consider the use variance. In my conversations with the applicant, it appears that they're seeking permission to use the tower, they really are not necessarily wedded to it being an interpretation or a use variance, they don't apparently care. You may. With respect to the use variance, there's going to be, there is by virtue of the Federal Law controlling this area a somewhat if you will relaxed standard than would normally appear for use variances, according to the State Law, it was my suggestion to the applicant's attorney that a presentation be made at the time of the public hearing

which would cover all the basics for a use variance, just as if it were under the State Law. My feeling was if this board was comfortable with that, they would certainly be comfortable with the lesser standard. We don't have to get into that issue of do they need the lesser standard and does that apply and so forth and becomes moot if they meet the standard. So with that, I will further advise the board as it wishes when this application comes up for a--

MR. KANE: You'll be prepared for the public hearing to address the use, five points of the use variance just in case?

MR. FISHER: We'll be prepared to address it. The only thing I'd say is that technically we're a public utility. Under New York State law which as was mentioned relaxes it, the only thing we wouldn't be prepared and because it's not relevant is the dollars and cents thing, if you were on a typical use variance application someone was saying I can't make an economic return for commercial, therefore, let me do residential or vice versa, you'd expect some kind of proof. We wouldn't have that kind of proof.

MR. KRIEGER: I have discussed that aspect with the attorney for Cellular One and suggested ways in which they arguably might be able to meet that test. It's my understanding they will therefore be prepared to so do and they certainly would have the advantage of the relaxed standard of the Telecommunications Act if that's necessary.

MR. KANE: Okay, Len, Steve, anything?

MR. MCDONALD: No.

MR. RIVERA: No.

MR. MINUTA: Mr. Chairman, two more questions, brief. By co-locating on this tower, would this prevent you from having to locate another tower closely? What's the range of the antenna?

MR. FISHER: Yeah, I think the answer to that is the

higher we get, the more wide area coverage we'd get, reducing the need for other towers. The RF plots have it but I'm not an RF engineer, but maybe Kevin, you can interpret this a little bit?

MR. BRENNAN: This site is to fill in that gap on 207, both in the Rock Tavern and into New Windsor-Toleman Road going out to the airport. And it hands off to our other side in New Windsor and the new site we built on the water tower at Stewart, and this should handle that whole area. If there's anyplace that there's a question of a future tower, it will be in the Salisbury Mills area over on that side. These sites are now almost four to five miles that they, six miles maximum they're apart, they cover approximately three miles around and that's what we're working on right now.

MR. MINUTA: The second part of that question is in the propagation map. Have you provided other sites where they're located adjacent to this one?

MS. BILLECI: Yes.

MR. FISHER: Yes.

MR. MINUTA: Thank you.

MR. KANE: Do I hear a motion?

MR. MINUTA: Accept a motion?

MR. KANE: Yes, I will.

MR. MINUTA: Make a motion that we move Cellular One Chazen Engineering to a public hearing for their requested interpretation and/or use variance for telecommunications facility to be located on the existing radio tower.

MR. MCDONALD: Second it.

ROLL CALL

MR. REIS	AYE
MR. MINUTA	AYE

October 27, 2003

22

MR. RIVERA	AYE
MR. MC DONALD	AYE
MR. KANE	AYE



RESULTS OF Z.B.A. MEETING OF: October 2, 2003

PROJECT: Cellular One ZBA # 03-52  
P.B.#



USE VARIANCE: NEED: EAF PROXY

LEAD AGENCY: M) S) VOTE: A N  
RIVERA  
MCDONALD CARRIED: Y N  
REIS  
MINUTA  
KANE

NEGATIVE DEC: M) S) VOTE: A N  
RIVERA  
MCDONALD CARRIED: Y N  
REIS  
MINUTA  
KANE

PUBLIC HEARING: M) S) VOTE: A N  
RIVERA  
MCDONALD CARRIED: Y N  
REIS  
MINUTA  
KANE

APPROVED: M) S) VOTE: A N  
RIVERA  
MCDONALD CARRIED: Y N  
REIS  
MINUTA  
KANE

ALL VARIANCES - PRELIMINARY APPEARANCE:

SCHEDULE PUBLIC HEARING: M) MN S) Mc VOTE: A 5 N 0  
RIVERA A  
MCDONALD A  
REIS A  
MINUTA A  
KANE A  
CARRIED: Y ✓ N

PUBLIC HEARING: STATEMENT OF MAILING READ INTO MINUTES

VARIANCE APPROVED: M) S) VOTE: A N

RIVERA  
MC DONALD  
REIS  
MINUTA  
KANE

CARRIED: Y N

Need to answer the board questions for before the P.H.



PROJECT I.D. NUMBER:  
10381.00

617.20

Appendix C

State Environmental Quality Review

**SHORT ENVIRONMENTAL ASSESSMENT FORM**

For UNLISTED ACTIONS Only

**PART I - PROJECT INFORMATION** (To be completed by Applicant or Project Sponsor)

1. APPLICANT/SPONSOR <i>Cellular One</i>	2. PROJECT NAME <i>Cellular One New Windsor</i>
3. PROJECT LOCATION: <i>Municipality 535 Toleman Road, New Windsor County Orange</i>	
4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map) <i>535 Toleman Road, Southwest of the intersection of Toleman Road and Route 207</i>	
5. IS PROPOSED ACTION: <input type="checkbox"/> New <input checked="" type="checkbox"/> Expansion <input type="checkbox"/> Modification/alteration	
6. DESCRIBE PROJECT BRIEFLY: <i>Adding telecommunications antennas to existing tower (not increasing the height of the tower) and placement of a 12 x 20 unmanned equipment building at the base of the tower.</i>	
7. AMOUNT OF LAND AFFECTED: Initially: <u>.005(+/-)</u> acres Ultimately: <u>.005(+/-)</u> acres	
8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, describe briefly. <i>Request for a Zoning Interpretation, or in the Alternative a Use Variance, is being sought.</i>	
9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT? <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Agriculture <input type="checkbox"/> Park/Forest/Open space <input type="checkbox"/> Other: _____ Describe: <i>Houses, Storage Facility &amp; Telecommunications Facility near by.</i>	
10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE, OR LOCAL)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, list agency name and permit/approval. <i>Zoning Board of Appeals: Interpretation/Use Variance (unlisted action); Planning Board: Site Plan Approval &amp; Building Permit</i>	
11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, list agency name and permit/approval.	
12. AS A RESULT OF THE PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE Applicant/sponsor name: <u>Eva Billeci for Cellular One</u> Date: <u>October 24, 2003</u> Signature: <u><i>Eva Billeci</i></u>	

If the action is in the Coastal Area, and you are a State agency, complete the Coastal Assessment Form before proceeding with this assessment.

OVER

**PART II – ENVIRONMENTAL ASSESSMENT (To be completed by Agency)**

<b>A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.4? If yes, coordinate the review process and use the FULL EAF.</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superceded by another involved agency.</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>C. COULD ACTION RESULT IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)</b> C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic patterns, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly:   C2. Aesthetic, agricultural, archaeological, historic or other natural or cultural resources; or community or neighborhood character? Explain briefly:   C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly:   C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly:   C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly:   C6. Long term, short term, cumulative, or other effects not identified in C1 – C5? Explain briefly:   C7. Other impacts (including changes in use of either quantity or type of energy)? Explain briefly:   
<b>D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CEA?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No      If Yes, explain briefly:

**PART III – DETERMINATION OF SIGNIFICANCE (To be completed by Agency)**

**INSTRUCTIONS:** For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed. If question D of Part II was checked yes, the determination and significance must evaluate the potential impact of the proposed action on the environmental characteristics of the CEA.

- ☐ Check this box if you have identified one or more potentially large or significant adverse impacts which MAY occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.
- ☐ Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action WILL NOT result in any significant adverse environmental impacts AND provide on attachments as necessary, the reasons supporting this determination:

\_\_\_\_\_  
Name of Lead Agency

\_\_\_\_\_  
Print or Type Name of Responsible Officer in Lead Agency

\_\_\_\_\_  
Title of Responsible Officer

\_\_\_\_\_  
Signature of Responsible Officer in Lead Agency

\_\_\_\_\_  
Signature of Preparer (if different from responsible officer)

\_\_\_\_\_  
Date

**Town of New Windsor  
555 Union Avenue  
New Windsor, NY 12553  
(845) 563-4611**

**RECEIPT  
#993-2003**

**10/22/2003**

**Chazen Engineering** #03-52

**Received \$ 150.00 for Zoning Board Fees, on 10/22/2003. Thank you for  
stopping by the Town Clerk's office.**

**As always, it is our pleasure to serve you.**

**Deborah Green  
Town Clerk**

**TOWN OF NEW WINDSOR**  
**ZONING BOARD OF APPEALS**

**RECEIPT OF ESCROW RECEIVED:**

DATE RECEIVED: 10-21-03

FOR: **ESCROW 03-52**

FROM: **CHAZEN ENG. & L. S. (FOR CELLULAR ONE**


**21 FOX STREET**

**POUGHKEEPSIE, NY 12601**

CHECK NUMBER: **27117**

AMOUNT: **500.00**

RECEIVED AT COMPTROLLER'S OFFICE BY:

  
\_\_\_\_\_  
NAME

10 / 22 / 03  
\_\_\_\_\_  
DATE

PLEASE RETURN SIGNED COPY TO MYRA FOR FILING

THANK YOU



# Town of New Windsor

555 Union Avenue  
New Windsor, New York 12553  
Telephone: (845) 563-4615  
Fax: (845) 563-4695

## ZONING BOARD OF APPEALS

October 21, 2003

Chazen Engineering & Land Surveying  
21 Fox Street  
Poughkeepsie, NY 12601

ATTN: EVA BILLECI

SUBJECT: CELLULAR ONE - ZBA FILE #03-52

Dear Ms. Billeci:

This letter is to inform you that you have been placed on the October 27th, 2003 agenda for the Zoning Board of Appeals to discuss your request for a variance at:

**535 Toleman Road  
New Windsor, NY**

This meeting starts at 7:30 p.m. and is held in the Town Meeting Room at Town Hall. If you have a problem with this time and/or date, please contact me at the above number and we will reschedule your appearance. If you have any further questions, please feel free to contact me.

Very truly yours,

---

Myra Mason, Secretary  
Zoning Board of Appeals

MLM:mlm ✓

cc: Neil J. Alexander, Esq. – Cuddy & Feder

**OFFICE OF THE PLANNING BOARD  
TOWN OF NEW WINDSOR  
ORANGE COUNTY, NY**

**NOTICE OF DISAPPROVAL OF PLANNING BOARD APPLICATION**

PLANNING BOARD FILE NUMBER: 03-29

DATE: 10-15-03

APPLICANT:

**CELLULAR ONE - C/O KEVIN BRENNAN**  
**1351 RT. 55**  
**LA GRANGEVILLE, NY 12540**

PLEASE TAKE NOTICE THAT YOUR APPLICATION:

DATED: 9/17/03

FOR: SITE PLAN

LOCATED AT: **WEST SIDE OF TOLEMAN ROAD - TOWN OF NEW WINDSOR**


ZONE: **R-1**

DESCRIPTION OF EXISTING SITE: SEC: 29 BLOCK: 1 LOT: 27.51

IS DISAPPROVED ON THE FOLLOWING GROUNDS:

**INTERPRETATION AND/OR VARIANCE NEEDED REGARDING**  
**TELECOMMUNICATIONS FACILITIES TO BE LOCATED ON EXISTING RADIO**  
**TOWER IN AN R-1 ZONE.**

TOWN OF NEW WINDSOR CODE: **48-21 M AND 48-24 B (3)**

  
MICHAEL BABCOCK,  
BUILDING INSPECTOR



**TOWN OF NEW WINDSOR**  
555 UNION AVENUE  
NEW WINDSOR, NY 12553  
(845) 563-4615 (MYRA MASON)



**ZONING BOARD PROCEDURES**

**PLEASE READ PAGE ONE AND TWO OF THIS PACKAGE AND SIGN PAGE TWO IT EXPLAINS THE PROCEDURE TO BE FOLLOWED FOR YOUR APPLICATION.**

PLEASE COMPLETE THE ATTACHED APPLICATION FORMS WHERE IT APPLIES TO YOUR SITUATION AND RETURN TO MYRA MASON (845-563-4615) AT THE ZONING BOARD OFFICE (LOCATED IN THE PLANNING BOARD & ENGINEERING OFFICE IN TOWN HALL) WITH THREE CHECKS MADE PAYABLE TO "THE TOWN OF NEW WINDSOR" AS FOLLOWS:

<b>RESIDENTIAL: (Three Separate Checks Please)</b>	
APPLICATION FEE:	\$ 50.00
*ESCROW:	\$300.00
** <u>DEPOSIT</u> FOR PUBLIC HEARING LIST:	\$ 25.00
<b>MULTI-FAMILY: (Three Separate Checks Please)</b>	
APPLICATION FEE:	\$150.00
*ESCROW:	\$500.00
** <u>DEPOSIT</u> FOR PUBLIC HEARING LIST:	\$ 25.00
<b>COMMERCIAL: (Three Separate Checks Please)</b>	
APPLICATION FEE:	\$150.00
*ESCROW:	\$500.00
** <u>DEPOSIT</u> FOR PUBLIC HEARING LIST:	\$ 25.00
<b>INTERPRETATION: (Three Separate Checks Please)</b>	
APPLICATION FEE:	\$150.00
*ESCROW:	\$500.00
** <u>DEPOSIT</u> FOR PUBLIC HEARING LIST:	\$ 25.00

YOU WILL THEN BE SCHEDULED FOR THE NEXT AVAILABLE AGENDA FOR YOUR "PRELIMINARY MEETING".

\*

**ESCROW**

IS TO COVER OUTSIDE PROFESSIONAL FEES SUCH AS ZBA ATTORNEY FEE, MINUTES OF YOUR PORTION OF THE MEETING, ETC. THE BALANCE WILL BE RETURNED TO YOU UPON CLOSING FILE.

THE APPLICANT WILL BE BILLED DIRECTLY FOR THE PUBLIC HEARING ADVERTISEMENT IN THE "SENTINEL NEWSPAPER"

\*\*

LIST OF PROPERTY OWNERS  
WITHIN 500 FT. RADIUS OF  
PROPERTY IN QUESTION:

APPROXIMATE COST FOR  
PUBLIC HEARING LIST:

1-10 NAMES	25.00
11-20 NAMES	35.00
21-30 NAMES	45.00
31-40 NAMES	55.00
41-50 NAMES	65.00
51-60 NAMES	75.00
61-70 NAMES	85.00
71-80 NAMES	95.00
81-90 NAMES	105.00
91-100 NAMES	115.00

ANYTHING OVER 100 NAMES  
IS \$1.00 EA. ADDITIONAL  
NAME

RECEIVED  
TOWN OF NEW WINDSOR

OCT 20 2003

ENGINEER & PLANNING

FOLLOWING YOUR PRELIMINARY MEETING, THE ZONING BOARD SECRETARY WILL ORDER YOUR "PUBLIC HEARING LIST" FROM THE ASSESSOR'S OFFICE.

1. WHEN THE ASSESSOR'S OFFICE NOTIFIES YOU THAT YOUR LIST IS READY, YOU MUST COME IN AND PAY THE BALANCE DUE FOR THE LIST. (THIS WILL BE PREPARED ON LABELS FOR YOUR CONVENIENCE).
2. PREPARE AN ENVELOPE (self-sealing envelopes are much appreciated) FOR EACH LABEL WITH YOUR RETURN ADDRESS AND A REGULAR \$.37 STAMP. BRING THE PREPARED ENVELOPES AND A COPY OF THE LIST TO THE ZONING BOARD SECRETARY FOR MAILING. YOUR PUBLIC HEARING DATE WILL BE SCHEDULED AT THIS TIME.

**NOTE:**

**IF IT IS EASIER FOR YOU, YOU CAN BRING THE ENVELOPES WITH YOU WHEN YOU PICK UP AND PAY FOR YOUR LIST. YOU CAN PUT THE LABELS ON AT THAT TIME AND BRING THEM TO THE ZBA OFFICE FOR COMPLETION.**

**\* \* MUST READ AND SIGN \* \***

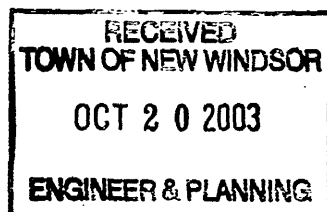
***I UNDERSTAND THAT I WILL BE BILLED DIRECTLY FOR MY "LEGAL NOTICE" TO BE PUBLISHED IN THE SENTINEL NEWSPAPER FOR MY PUBLIC HEARING....(this charge is not deducted from your escrow posted).***

*Era J. Bullock*  
SIGNATURE

10/17/03  
DATE

**NOTE:**

THE ZBA MEETS ON THE 2<sup>ND</sup> AND 4<sup>TH</sup> MONDAY OF EACH MONTH UNLESS A HOLIDAY FALLS ON THAT DATE.  
(JULY AND AUGUST – ONE MEETING PER MONTH ONLY)



PAGE 2

**03-52**

COMPLETE THIS PAGE ☐





**TOWN OF NEW WINDSOR  
ZONING BOARD OF APPEALS**

**APPLICATION FOR VARIANCE**



10/17/03      Application Type: Use Variance ☐ Area Variance ☐  
Date      Sign Variance ☐ Interpretation ☒

I. **Owner Information:**      Phone Number: (845) 561-2131  
Sunset Crest Realty Corp      Fax Number: (845) 561-2138  
c/o (Name) Robert Maines  
WGNY, PO Box 2307, Newburgh, NY 12550  
(Address) Applicant; Cellular One

II. **If Moving to New Address, please list forwarding address for return of escrow:**  
Phone Number: ( )  
(Name)      Fax Number: ( )  
(Address)

III. **Attorney:** Neil J. Alexander, Esq.      Phone Number: (914) 761-1300  
Cuddy & Feder      Fax Number: (914) 761-5372  
(Name)  
90 Maple Avenue, White Plains, NY 10601-5196  
(Address)

IV. **Contractor/Engineer/Architect/Surveyor/:**      Phone Number (845) 454-3980  
Fax Number: (845) 454-4026  
Chazen Engineering & Land Surveying Co., P.C. c/o Eva Billeci  
(Name)  
21 Fox Street, Poughkeepsie, NY 12601  
(Address)

V. **Property Information:**  
Zone: R1      Property Address in Question: 535 Toleman Road  
Lot Size: 1 acre +/- Tax Map Number: Section 29 Block 1 Lot 27.51  
a. What other zones lie within 500 feet? (OLI) Office and light industry  
b. Is pending sale or lease subject to ZBA approval of this Application? No  
c. When was property purchased by present owner? \_\_\_\_\_  
d. Has property been subdivided previously? No If so, When: \_\_\_\_\_  
e. Has an Order to Remedy Violation been issued against the property by the  
Building/Zoning/Fire Inspector? No  
f. Is there any outside storage at the property now or is any proposed? No

\*\*\*\*PLEASE NOTE:\*\*\*\*\*

**THIS APPLICATION, IF NOT FINALIZED, EXPIRES ONE YEAR FROM THE DATE  
OF SUBMITTAL.**

**TOWN OF NEW WINDSOR  
ZONING BOARD OF APPEALS**

**APPLICATION FOR VARIANCE - continued**

**VI. USE VARIANCE:**

Use Variance requested from New Windsor Zoning Local Law,

Section 48-21, MTable of R-1 Regs., Col. A, B, M.

Describe proposal:

Cellular One seeks approval for co-location of 6 antennas on  
the existing WGNV tower. See letter prepared by Cuddy & Feder, LLC for more  
information, provided under separate cover.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- VII.** The legal standard for a "Use Variance" is unnecessary hardship. Describe why you feel unnecessary hardship will result unless the Use Variance is granted. Also state any efforts you have made to alleviate the hardship other than this application.

In the alternative to its request for interpretation, Cellular One, as a  
public utility, has applied for a use variance under the Public Necessity  
Standards and meets that criteria for the reason set forth in the accompanying  
letter submitted by Cuddy & Feder, LLC.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**PLEASE NOTE:**

***THIS APPLICATION, IF NOT FINALIZED, EXPIRES ONE YEAR FROM THE DATE  
OF SUBMITTAL.***

**TOWN OF NEW WINDSOR  
ZONING BOARD OF APPEALS**

**APPLICATION FOR VARIANCE - continued**

- IX. In making its determination, the ZBA shall take into consideration, among other aspects, the benefit to the applicant if the variance is granted as weighed against the detriment to the health, safety and welfare of the neighborhood or community by such grant. Also, whether an undesirable change will be produced in the character of the neighborhood or a detriment to nearby properties will be created by the granting of the area variance; (2) whether the benefit sought by the applicant can be achieved by some other method feasible for the applicant to pursue other than an area variance; (3) whether the requested area variance is substantial; (4) whether the proposed variance will have an adverse effect or impact on the physical or environmental conditions in the neighborhood or district; and (5) whether the alleged difficulty was self-created.

After reading the above paragraph, please describe why you believe the ZBA should grant your application for an Area Variance:

Please see Cuddy & Feder LLC letter

---

---

---

---

---

---

---

---

**PLEASE NOTE:**

**THIS APPLICATION, IF NOT FINALIZED, EXPIRES ONE YEAR FROM THE DATE OF SUBMITTAL.**

**OWN OF NEW WINDSOR  
ZONING BOARD OF APPEALS**

**APPLICATION FOR VARIANCE - continued**

**X. SIGN VARIANCE:**

- (a) Variance requested from New Windsor Zoning Local Law,  
Section \_\_\_\_\_, Supplementary Sign Regulations

	<u>Requirements</u>	<u>Proposed or Available</u>	<u>Variance Request</u>
Sign #1	_____	_____	_____
Sign #2	_____	_____	_____
Sign #3	_____	_____	_____
Sign #4	_____	_____	_____

- (b) Describe in detail the sign(s) for which you seek a variance, and set forth your reasons for requiring extra or oversized signs.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- (c) What is total area in square feet of all signs on premises including signs on windows, face of building and freestanding signs \_\_\_\_\_?

**XI. INTERPRETATION:**

- (a) Interpretation requested of New Windsor Zoning Local Law,  
Section 48-21-M

- (b) Describe in detail the proposal before the Board:

It is Cellular One's position that its application to develop a  
wireless facility on the subject property constitutes shared use  
of an existing tall structure, which is permitted within the R1  
Zoning District according to Section 48-21(M)(4). For further  
explanation, please see letter prepared by Cuddy & Feder, LLC.

***PLEASE NOTE:***

***THIS APPLICATION, IF NOT FINALIZED, EXPIRES ONE YEAR FROM THE DATE  
OF SUBMITTAL.***

**XII. ADDITIONAL COMMENTS:**

- (a) Describe any conditions or safeguards you offer to ensure that the quality of the zone and neighboring zones is maintained or upgraded and that the intent and spirit of the New Windsor Zoning Local Law is fostered. (Trees, landscaped, curbs, lighting, paving, fencing, screening, sign limitations, utilities, drainage.)
- 
- 

**XIII. ATTACHMENTS REQUIRED:**

- ☒ Copy of contract of sale, lease or franchise agreement. Copy of deed and title policy.
- ☒ Copy of site plan or survey showing the size and location of the lot, the location of all buildings, facilities, utilities, access drives, parking areas, trees, landscaping, fencing, screening, signs, curbs, paving and streets within 200 ft. of the lot in question.
- ☐ Copies of signs with dimensions and location.
- ☒ Three checks: (each payable to the TOWN OF NEW WINDSOR)
- ☐ One in the amount of \$ 300.00 or 500.00, (escrow)
- ☐ One in the amount of \$ 50.00 or 150.00, (application fee)
- ☐ One in the amount of \$ 25.00, (Public Hearing List Deposit)
- ☒ Photographs of existing premises from several angles. **(IF SUBMITTING DIGITAL PHOTOS PRINTED FROM COMPUTER – PLEASE SUBMIT FOUR(4) SETS OF THE PHOTOS. (PHOTOSIMULATIONS))**

**XIV. AFFIDAVIT.**

STATE OF NEW YORK)

) SS.:

COUNTY OF ORANGE )

The undersigned applicant, being duly sworn, deposes and states that the information, statements and representations contained in this application are true and accurate to the best of his/her knowledge or to the best of his/her information and belief. The applicant further understands and agrees that the Zoning Board of Appeals may take action to rescind any variance granted if the conditions or situation presented herein are materially changed.

Sworn to before me this:

20 October 2003

day of PATRICIA SICOLO 20

Notary Public, State of New York

Reg. # 01SI5053046

Qualified in Orange County

Commission Expires December 11, 20 05

Signature and Stamp of Notary

Owner's Signature (Notarized)

Owner's Name (Please Print)

Applicant's Signature (If not Owner)

**PLEASE NOTE:**

**THIS APPLICATION, IF NOT FINALIZED, EXPIRES ONE YEAR FROM THE DATE OF SUBMITTAL.**

COMPLETE THIS PAGE ☐

**APPLICANT/OWNER PROXY STATEMENT**  
**(for professional representation)**

for submittal to the:  
TOWN OF NEW WINDSOR ZONING BOARD OF APPEALS

Sunsetcrest Realty Corporation/WGNY

C/O Mr. Robert Maines \_\_\_\_\_, deposes and says that he resides  
(OWNER)

at WGNY, 661 Little Britain Road, New Windsor, NY 12553 in the County of Orange  
(OWNER'S ADDRESS)

and State of New York \_\_\_\_\_ and that he is the owner of property tax map

(Sec. \_\_\_\_\_ Block \_\_\_\_\_ Lot \_\_\_\_\_)  
designation number (Sec. 29 Block 1 Lot 27.51) which is the premises described in

the foregoing application and that he authorizes:

Cellular One c/o Kevin Brennan, 1351 Route 55, LaGrangeville, N Y 12540  
(Applicant Name & Address, if different from owner)

The Chazen Companies, 21 Fox Street, Poughkeepsie, NY 12601  
(Name & Address of Professional Representative of Owner and/or Applicant)

to make the foregoing application as described therein.

X Date: 10/20/03 \_\_\_\_\_

\*\*

UP OPERATIONS  
Owner's Signature (MUST BE NOTARIZED) X

Sworn to before me this:

20 day of October 20 03

PATRICIA SICOLO  
Notary Public, State of New York  
Reg. # 01SI5053046

Qualified in Orange County  
Commission Expires December 11, 20 05

Signature and Stamp of Notary

Kevin Brennan  
Applicant's Signature (If different than owner) (Applicant)

Erin Billetse  
Representative's Signature  
(Engineer for Applicant)

**THIS FORM IS TO BE COMPLETED ONLY IF SOMEONE OTHER THAN THE PROPERTY OWNER WILL BE APPEARING AS REPRESENTATION OF THE OWNER AT THE ZBA MEETINGS.**

**\*\* PLEASE NOTE:**

**ONLY OWNER'S SIGNATURE MUST BE NOTARIZED.**

COMPLETE THIS PAGE ☐



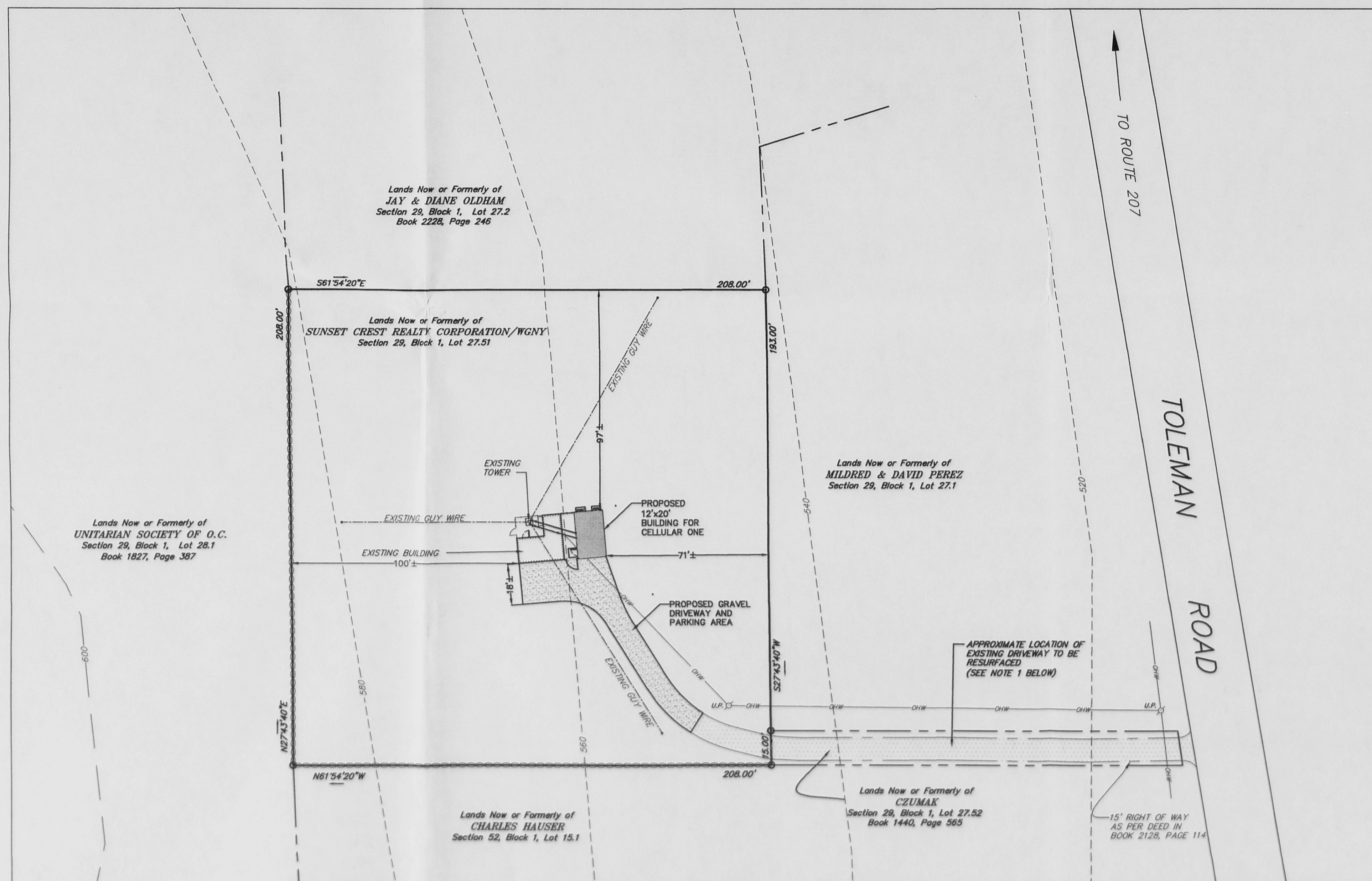
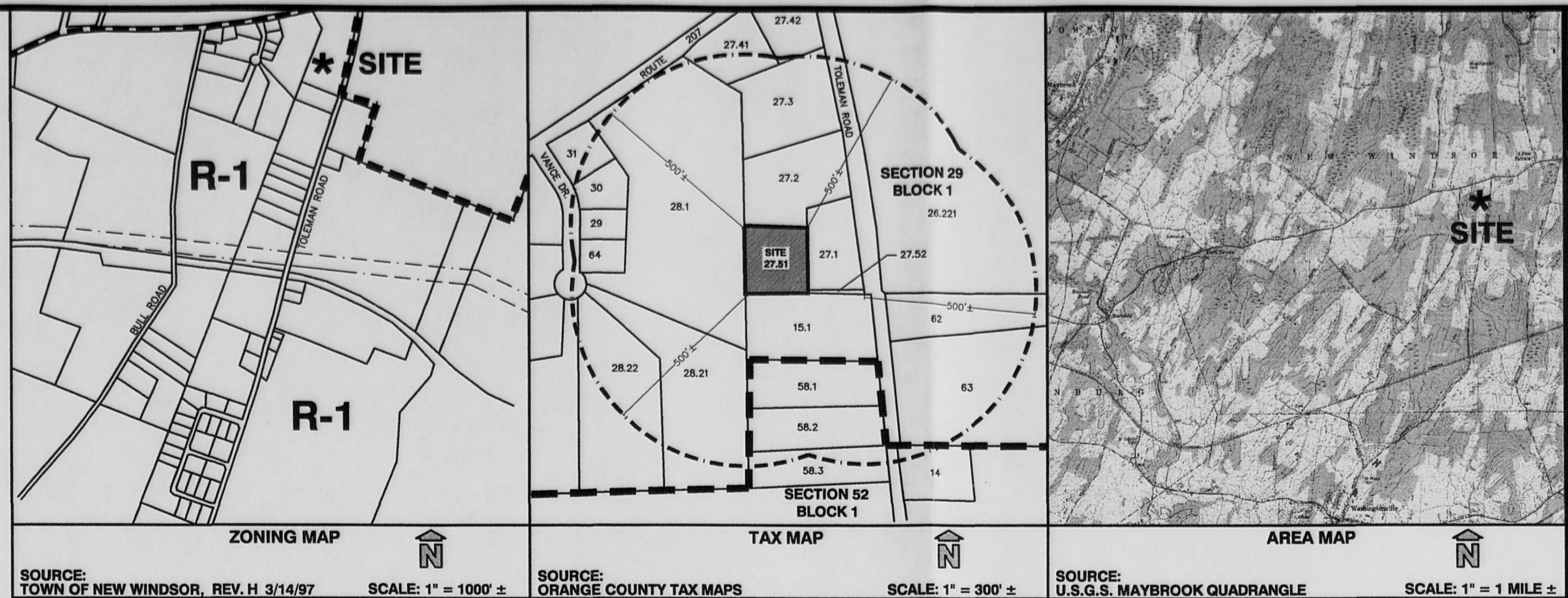
# LEGEND:

- NO PHYSICAL BOUNDS
- ADJACENT PROPERTY LINE
- X-X- EXISTING CHAINLINK FENCE
- - - EXISTING CONTOUR
- - - EXISTING DRIVEWAY AND/OR CLEARED AREA
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED GRAVEL W/OIL & CHIP
- PROPOSED GRAVEL
- X-X- PROPOSED CHAINLINK FENCE

## ADJOINER LIST

PROJECT TAX # AND OWNER:  
29-1-27.51  
SUNSET CREST REALTY CORPORATION/WGNY  
C/O ROBERT MAINES

TAX ID #	OWNER
29-1-63	JOSEPH DIMICELI
29-1-62	PHYLLIS & WILLIAM EICH
29-1-26.221	ROCK TAVERN VILLAGE
29-1-27.3	GEORGE GOTTLIEB
29-1-27.2	JAY & DIANE OLDHAM
29-1-27.1	MILDRED & DAVID PEREZ
29-1-27.52	MARY CZUMAK
29-1-28.1	UNITARIAN SOCIETY OF O.C.
29-1-28.21	ELAINE & STEVEN OYSAK
29-1-30	GREGG WELLS
29-1-29	STEPHAN & PATRICIA NEYBOLD
29-1-64	SCOTT & ANN MILLER
29-1-28.22	FLORINDA & JOSEPH SABELLA
52-1-15.1	CHARLES HAUSER
52-1-58.1	LAWRENCE RICHARDSON
52-1-58.2	GERALD & DEBRA LORRAINE
52-1-58.3	PATRICIA NAF C/O DOMINQUEZ
52-1-14	FRIEDA NETZ C/O CZARNECKI
29-1-31	WALTER & JOSEPHINE DZIEREK
29-1-27.41	RAYMOND CZUMAK
29-1-27.42	RAYMOND CZUMAK



1 OVERALL SITE PLAN  
SP1 SCALE: 1" = 30'

## NOTES:

- CONTRACTOR TO INSTALL A LEVELING COURSE OF GRAVEL (NYS DOT SUBBASE COURSE TYPE 4), AND THEN RESURFACE WITH OIL AND CHIP.
- CONTRACTOR CANNOT GRADE OUTSIDE OF THE 15' WIDE RIGHT OF WAY DURING DRIVEWAY RESURFACING.



**TAX PARCEL NUMBER:**  
SECTION 52, BLOCK 1, LOT 27.51

**ZONING DESIGNATION:**  
R1-RURAL RESIDENTIAL

**PROPERTY AND TOWER OWNER:**  
SUNSET CREST REALTY CORP.  
C/O WGNY, BOB MAINES  
661 LITTLE BRITAIN ROAD  
NEW WINDSOR, NY 12553

**APPLICANT**  
CELLULAR ONE  
1351 ROUTE 55  
CELLULAR ONE SITE NAME: NEW WINDSOR

**APPROXIMATE U.S.G.S. COORDINATES:**  
LATITUDE: 41° 28' 22.2" N  
LONGITUDE: 74° 08' 22.62" W

**SITE ADDRESS:**  
535 TOLEMAN ROAD  
NEW WINDSOR, NY

**DIRECTIONS:**  
TAKE I-84 WEST TO EXIT 75. FOLLOW RT. 300 AND TAKE A RIGHT ON RT. 207. FOLLOW RT. 207 AND TAKE A LEFT ON TOLEMAN ROAD. TURN RIGHT INTO DRIVEWAY.

**PROPERTY AREA:**  
1.00 ACRES ±

**EXISTING BUILDING COVERAGE:**  
280 SQ. FT.

**PROPOSED BUILDING COVERAGE**  
240 SQ. FT.

## SURVEY NOTES:

- BASE MAP AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED "CERTIFICATION SURVEY LANDS OF STEREO NEWBURGH, INC." PREPARED BY VINCENT J. DOCE L.S. AND DATED MAY 20, 1986.
- EXISTING CONTOURS WERE TAKEN FROM 20' CONTOUR INTERVAL TOPOGRAPHY FROM THE ORANGE COUNTY WATER AUTHORITY DATA SET, DATED 1997.
- EXISTING ABOVE GROUND FEATURES TAKEN FROM A SITE VISIT CONDUCTED ON 8/7/03 AND NOT BASED ON AN ACCURATE FIELD SURVEY.

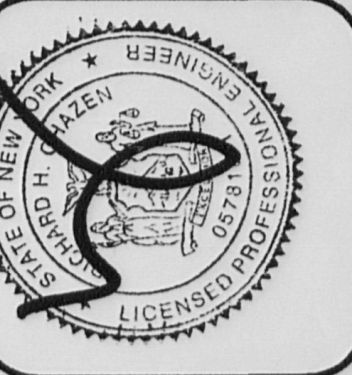
DRAWING INDEX	
SHEET #	SHEET NAME
SP1	OVERALL SITE PLAN
SP2	SITE PLAN & DETAILS
SD1	DETAILS

RECEIVED  
TOWN OF NEW WINDSOR  
OCT 31 2003  
ENGINEER & PLANNING

TOWN OF NEW WINDSOR  
PLANNING BOARD APPROVAL

DATE	BY	DESCRIPTION
10/30/03	PER TOWN ENGINEER AND CELLULAR ONE'S COMMENTS	
10/16/03	PER TOWN ENGINEER COMMENTS	
10/16/03	PER TOWN ENGINEER COMMENTS	

**CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.**  
North Country Office:  
110 Glen Street  
New Windsor, NY 12553  
Phone: (845) 872-0513  
Orange County Office:  
25 Greer Avenue  
New Windsor, NY 12553  
Phone: (845) 234-8000  
Delaware County Office:  
21 East Street  
New Windsor, NY 12553  
Phone: (845) 442-3000



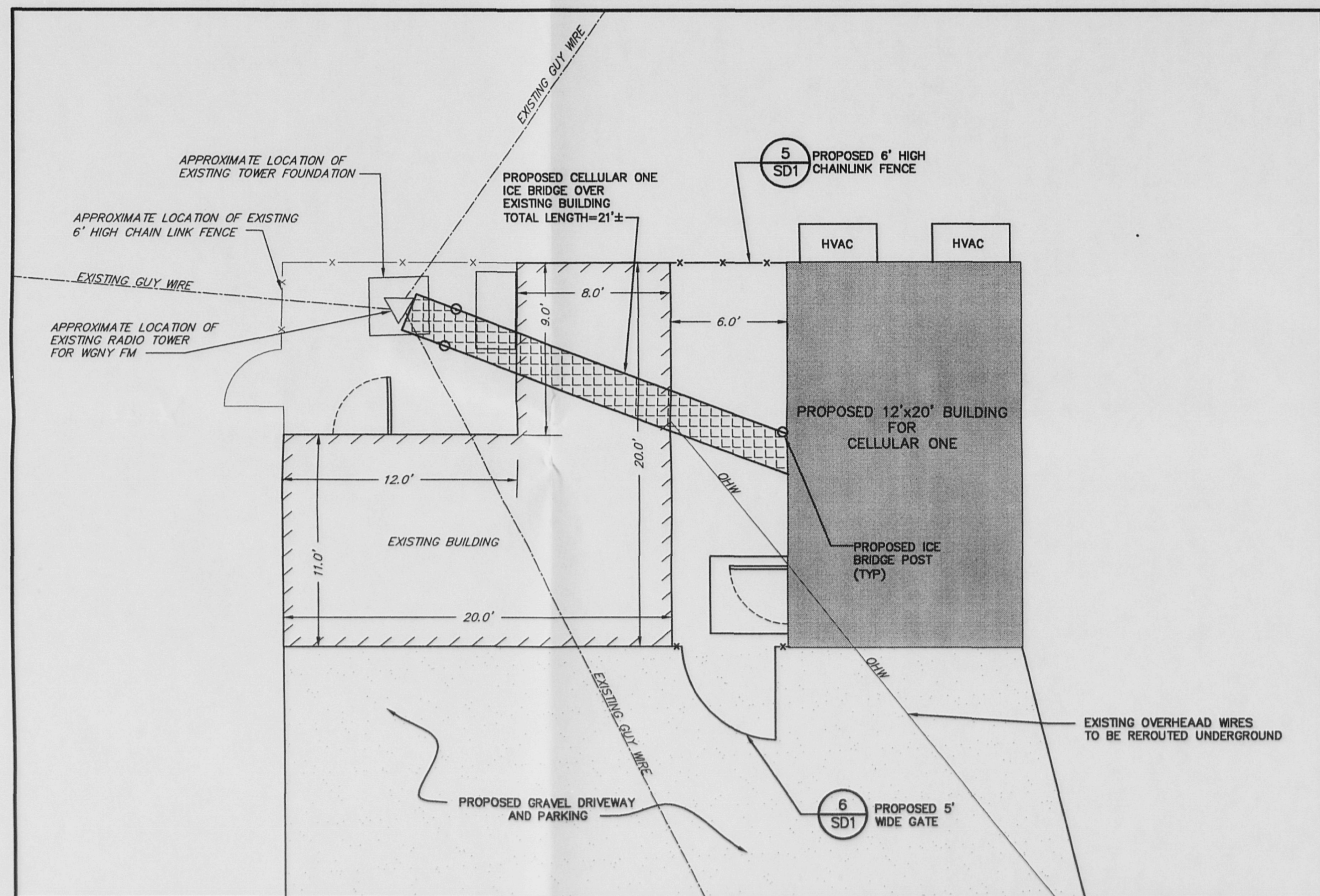
ALL RIGHTS RESERVED. NO COPY OR REPRODUCTION OF THIS PLAN OR ANY PART THEREOF IS PERMITTED WITHOUT THE WRITTEN PERMISSION OF THE DESIGN ENGINEER, SURVEYOR, OR ARCHITECT. ALTERATION OF THIS DRAWING BY A P.E. MUST BE INDICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF ALTERATION.

CELLULAR ONE  
OVERALL SITE PLAN  
NEW WINDSOR  
WGNY CO-LOCATION  
TOLEMAN ROAD

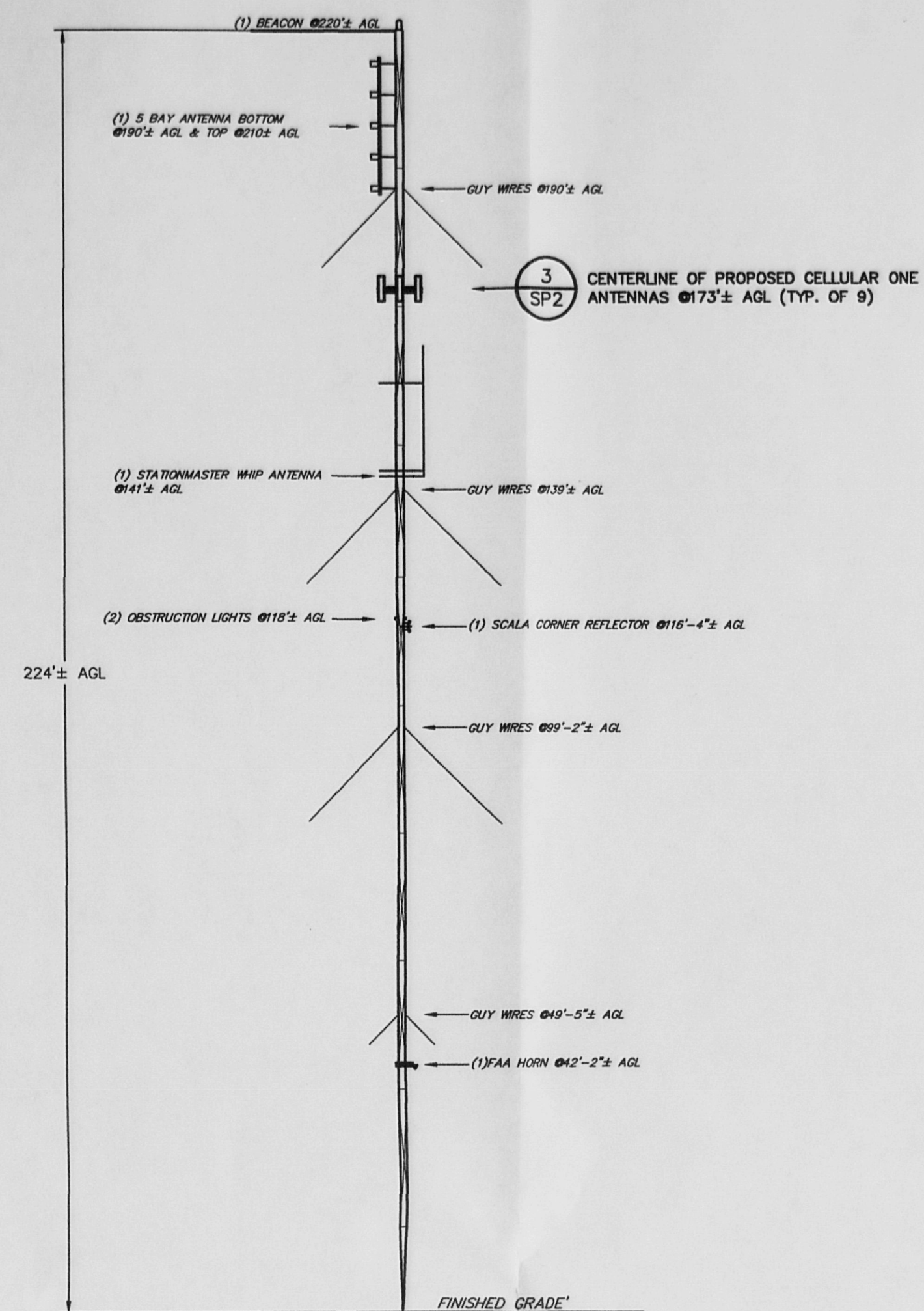
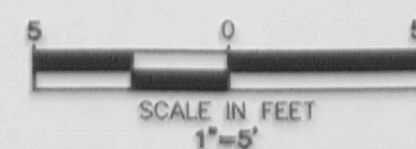
drawn M.C. checked  
date 9/10/03 scale 1" = 30'  
project no. 10381  
sheet no. SP1

ZONING DRAWINGS - NOT FOR CONSTRUCTION



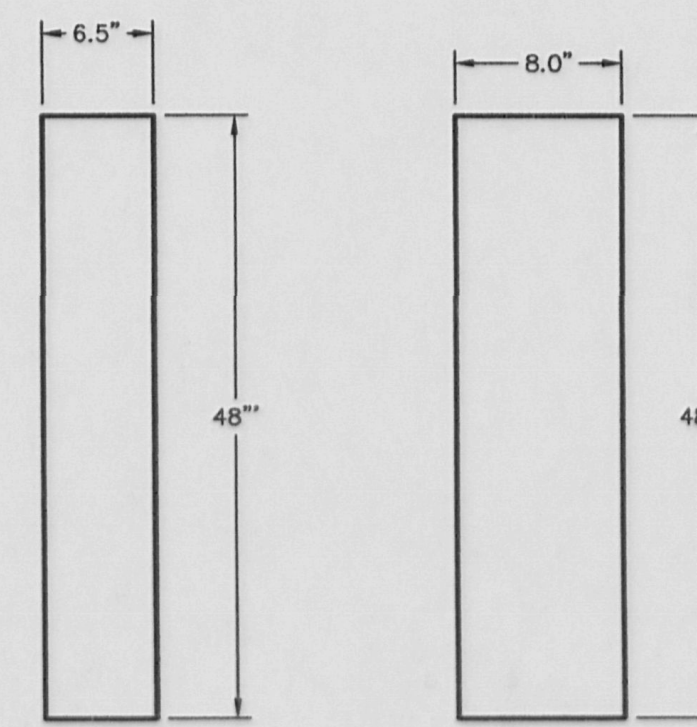


1 SITE PLAN  
SP2 SCALE: 1"=5'



NOTE: EXISTING INFORMATION SHOWN PROVIDED BY MIDSTATE COMMUNICATIONS  
PROPOSED INFORMATION PROVIDED BY CELLULAR ONE.

2 TOWER ELEVATION  
SP2 SCALE: N.T.S.

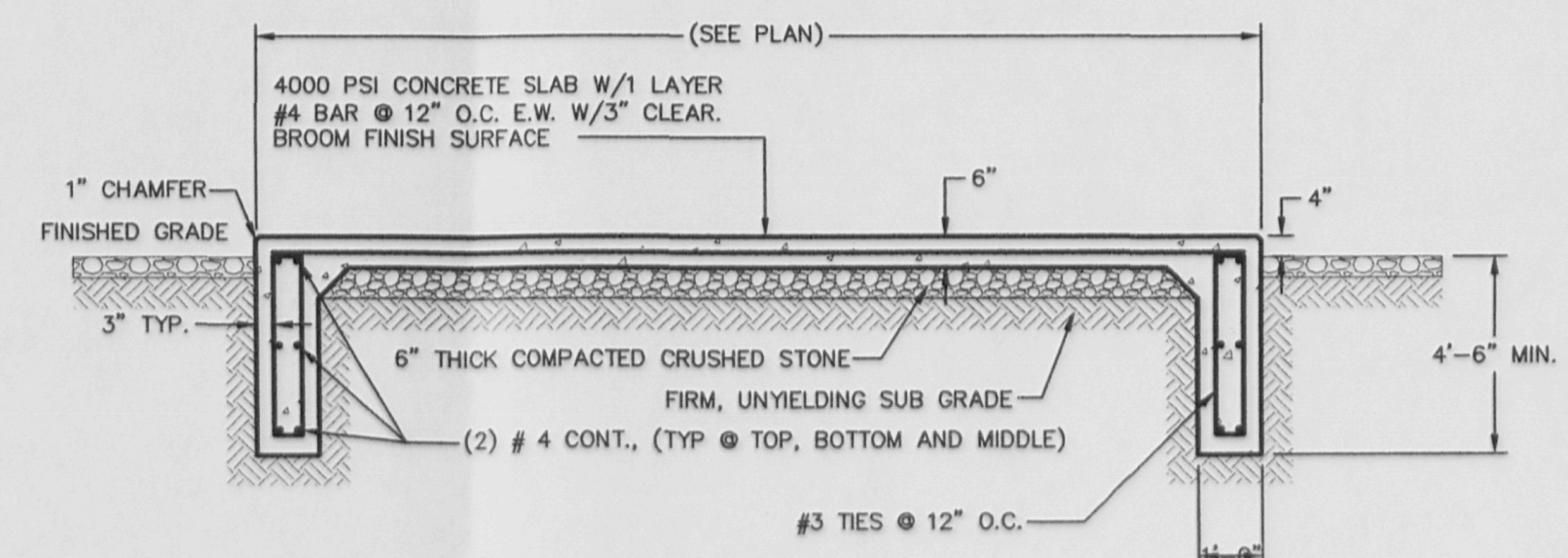


FRONT VIEW

SIDE VIEW

MODEL: DECIBEL DB844H90E

3 PANEL ANTENNA DETAIL  
SP2 SCALE: N.T.S.



4 CONCRETE EQUIPMENT BUILDING PAD SECTION  
SP2 SCALE: N.T.S.

TOWN OF NEW WINDSOR  
PLANNING BOARD APPROVAL

CELLULAR ONE  
SITE PLAN & DETAILS  
NEW WINDSOR  
WGNV CO-LOCATION  
TOLEMAN ROAD

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn M.C. checked  
date 9/10/03 scale 1"=5'  
project no. 10381  
sheet no. SP2

CHAZEN ENGINEERING LAND SURVEYING CO., P.C.

Delaware County Office  
211 First Street  
Pottsville, PA 17876  
Phone: (610) 454-3800

Orange County Office  
283 Route 177  
Pottsville, PA 17876  
Phone: (610) 454-3800

Delaware County Office  
211 First Street  
Pottsville, PA 17876  
Phone: (610) 454-3800



ALL RIGHTS RESERVED. COPY OR REPRODUCTION OF THIS PLAN WITHOUT THE WRITTEN PERMISSION OF CHAZEN ENGINEERING LAND SURVEYING CO., P.C. IS PROHIBITED. ANY ALTERATION OF THIS DRAWING, EXCEPT BY A LICENSED P.E., IS UNLAWFUL. ANY ALTERATION BY A P.E. MUST BE INDICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF ALTERATION.

DATE	REVISION	DESCRIPTION
10/16/03	1	PER TOWN ENGINEER COMMENTS
10/30/03	2	PER TOWN ENGINEER & CELLULAR ONE'S COMMENTS



